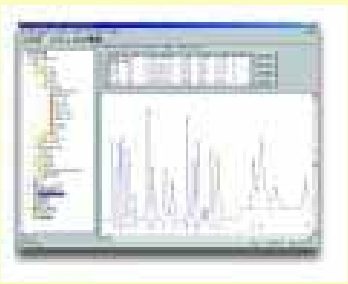
E-Chrom Tech

Instrument Manufacturer & Exporter in Taiwan



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A01- GC9800 Gas Chromatography

Descriptions

GC9800 series gas chromatography is a kind of practical analytical instrument with high performance which allows assembly of highly sensitive thermal conductivity detector (TCD) or highly stable hydrogen flame ionization detector (FID). According to the user's needs, different detectors such as MTCD, ECD, and so on, can also be installed in this instrument. The design and fabrication of this instrument are based on the principle of gas chromatography. It has reasonable structure, high sensitivity, and it is easy for operation and maintenance.

When operating GC9800, a certain kind of carrier gas (H2, N2, or Ar, which is called mobile phase) is needed. And the stationary phase is filled in the chromatographic column. The compositions of analyzed mixture are separated by multiple distributions between two phases or because of the difference of bulk additive adsorbability they are separated to different compositions. The single composition after chromatographic fractionation enters detector along with the carrier gas one after another. Then the corresponding electric signals will appear in the detector and be recorded with chromatographic data processor or chromatographic working station. Thus qualitative or quantitative analysis can be carried to each composition in mixture.

The instrument can be equipped with different sampling devices and it can be used to analyze gas, liquid and solid samples. In addition, GC9800 can make macro-analysis and micro-analysis for various gases and organic mixtures whose boiling point is below 350ºC. GC9800 is an indispensable analytical instrument in the fields of petroleum, chemical industry, spice, medicine, hygiene, metallurgy, electric power, gas industry and many specific domains.

Features & Specifications

Different Models of GC9800:

- **GC9800TP**
  TCD, double packed column injectors, microcomputer temperature control, three-stage temperature programming, automatic back door open system
- **GC9800FP**
  FID, packed column and capillary column injector, microcomputer temperature control, three-stage temperature programming, automatic back door open system
- **GC9800FFP**
  Double FID (double amplifiers), packed column and capillary column injector, microcomputer temperature control, three-stage temperature programming, automatic back door open system
- **GC9800TFP**
  TCD+FID, packed column and capillary column injector, microcomputer temperature control, three-stage temperature programming, automatic back door open system
- **GC9800EP**
  ECD, packed column and capillary column injector, microcomputer temperature control, three-stage temperature programming, automatic back door open system
- **GC9800FEP**
  FID+ECD, packed column and capillary column injector, microcomputer temperature control, three-stage temperature programming, automatic back door open system

GC9800 Technique Parameter:

Operation Conditions

- Environment temperature: 5-35 ºC
- Relative humidity: ≤ 85%
- Working environment: The room must be free from corrosive gas and hydrogen gas cylinder must be kept away from the fire. There must be no turbulent shock and strong magnetic field, which will affect the operation.
- Power supply: 200V ± (5%-10%), frequency: 50Hz ± 0.5Hz

Temperature Control

350ºC ± 0.1ºC; the temperature programming velocity is 0.1-25ºC/min

Susceptiveness of Detector

- TCD (TC-1): S ≥ 2800mv.ml/mg (benzene)
- FID: D ≤ 1×10-11g/s (nC16)
- ECD: D ≤ 1×10-13g/s (γ-666)

Stability

Baseline Shift ≤ 30μv/15min, Noise ≤ 10μv

A02- Liquid Chromatography

High-pressure Gradient System

Isocratic System

Descriptions

High-pressure Gradient System (with UV230)

A. High-pressure pump: 2 pcs
UV/VIS detector: 1 piece
High-pressure 6-port injector: 1 piece
C18 column 5μm ID4.6 × 200mm: 1 piece
Gradient control module: 1 unit
High-pressure gradient mixer: 1 piece
Single channel chromatography data system: 1 unit

High-pressure Gradient system (with DAD)

B. High-pressure pump: 2 pcs
Diode array detector: 1 piece
High-pressure 6-port injector: 1 piece
C18 column 5μm ID4.6 × 200mm: 1 piece
Gradient control module: 1 unit
High-pressure gradient mixer: 1 piece
DAD Data-Processing Software: 1 unit

Isocratic System (with UV230)

A. High-pressure pump: 1 piece
UV/VIS detector: 1 piece
High-pressure 6-port injector: 1 piece
C18 column 5μm ID4.6 × 200mm: 1 piece
Single channel chromatography data system: 1 unit

Isocratic System (with DAD)

B. High-pressure pump: 1 piece
Diode array detector: 1 piece
High-pressure 6-port injector: 1 piece
C18 column 5μm ID4.6 × 200mm: 1 piece
DAD Data-Processing Software: 1 unit

Features & Specifications

P230 High Pressure Pump (Analytical)

Features

- The P230 Pump is a dual plunger solvent delivery system. The mechanical design includes short plunger stroke technology with two check valves. This results in very low pulsation.
- The microprocessor controlled speed regulation leads to a very stable speed of

the step motor, driving the plungers.

- Integrated calculation software continuously corrects flow rates according to the system pressure.
- Provide flow rate adjustment function when the actual flow rate is different from the preset.
- The RS232 remote port is designed to control by data system.

Specifications

- Flow range: 0.001-9.999mL/min, with 0.001mL/min increment
- Flow accuracy: ≤ ± 0.3% (1.000mL/min, 8.5MPa, water, ambient temperature)
- Flow stability: RSD ≤ 0.1% (1.000mL/min, 8.5MPa, water, ambient temperature)
- Max pressure: 40MPa (0.001-4.999mL/min); 20MPa (5.000-9.999mL/min)
- Pressure precision: the displayed pressure error is less than ± 0.3%;
- Pressure pulsation: l ≤ 1.0%
- Power requirements: 110/220V, 60/50Hz
- Power consumption: 180W
- Dimensions: 420mm × 280mm × 175mm
- Weight: 20kg

UV230+ UV/Vis Detector

Features

- Diode Array Technology for wavelength change without any mechanical moving parts.
- Dual lamp (deuterium / tungsten) for a spectral range of 190 - 720 nm.
- Programmable change of wavelength (up to 5 steps).
- Serial interface (RS232C) for external control.

Specifications

- Wavelength range: 190-720nm
- Light source: Deuterium lamp and Tungsten lamp
- Optical bandwidth: 6nm
- Wavelength accuracy: ±0.5nm
- Wavelength repeatability: ±0.1nm
- Wavelength programmable time setting range: 0.1-999.9min
- Rise Time: 0.0-9.9s

- Linear range: ≥ 1.5AU (5%)
- Baseline noise: ≤ ±3 × 10-5 AU (empty cell, 254nm, 1.0s)
- Baseline drift: ≤ 5 × 10-4AU/h (empty cell, 254nm, time: 60min)
- Analytical flow cell :optical path length 10mm; volume 10μL
- Semi-preparative flow cell: optical path length 3mm; volume 5μL
- Micro flow cell: optical path length 3mm; volume 1.2μL
- Power requirements: 110/220V, 60/50Hz
- Power consumption: 110W
- Dimensions: 420mm × 280mm × 175mm
- Weight: 8kg

DAD230 Diode Array Detector

Features

- A full-closed optical system and quartz light fiber based transmission technique was used.
- High spectral resolution and detect sensitivity were obtained.
- Combined with the powerful data system (DAD Data System Workstation), the instrument can provide a lot of information including chromatogram, spectra of components, three dimension information and peak purity results.

Specifications

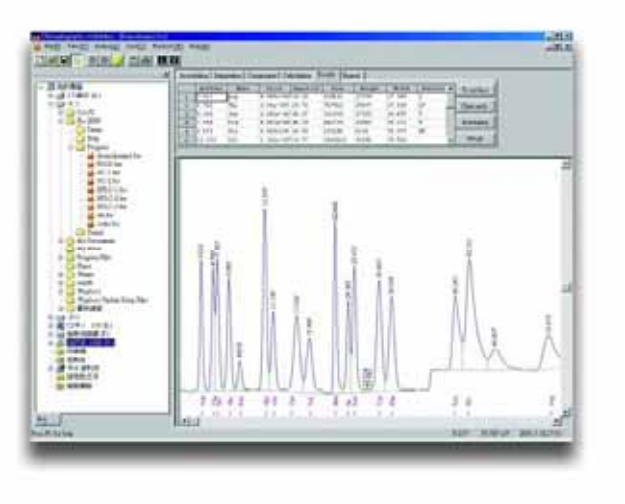
- Wavelength Range:
  199-618nm (512 Diodes)
  190-1015nm (1024 Diodes)
- Light source: Deuterium lamp and Tungsten lamp
- Number of Diodes: 512/1024
- Array Resolution: 0.8nm
- Spectral Resolution: 1.2nm
- Wavelength Accuracy: ±0.5nm
- Wavelength Repeatability: ±0.1nm
- Rise Time: 0.1-9.9s
- Baseline Noise: < ± 1.5 × 10-5 (AU); N2 in empty cell, 254nm, 1.0s
- Baseline Drift: < 5 × 10-4 (AU/h) N2 in empty cell, 254nm, time: 60min
- Flow Cell:
  Analytical flow cell :optical path length 10mm; volume 10μL
  Semi-preparative flow cell: optical path length 3mm; volume 5μL
- Micro flow cell: optical path length 3mm; volume 1.2μL
- Operating Temperature: 4 to 40°C
- Operating Humidity: < 80%, non-condensing

- Power requirements: 110/220V, 60/50Hz
- Power Consumption: 110W
- Dimensions: 420mm × 280mm × 180mm
- Weight: 8kg

DAD Data Working Station

- To guarantee DAD system a stable operation under Windows 9x, we adopt virtual driver. With a friendly interface and strong function DAD data-processing platform, users can conveniently observe and process contour map, spectrogram, chromatogram and three-dimensional spectrogram-chromatogram. With sufficient functions of chromatographic data processing and quantitative calculating, arbitrary revolving and parts magnifying, users can obtain more vivid visual effect and results analysis.
- DAD workstation can provide all kinds of chromatograms, including single wavelength, arbitrary two-wavelength absorptance, wavelength time procedure, max absorption wavelength and total absorption, and among them, the most sensitive detection method is max absorption wavelength chromatogram, while the best method to quantitate reproducibility is total absorption chromatogram.
- DAD system provides many discrimination methods on peaks purity, including contour map, three-dimensional spectrogram-chromatogram, overlap spectrogram, wavelength comparison diagram and peaks purity calculating method.
- Users can conveniently built their ultraviolet spectrogram gallery with the multifunctional spectrogram gallery managing and searching procedure, and the programme can auto-pick spectrogram to each peak from spectrogram, chromatogram and three dimensional data; auto-search spectrogram gallery; users can also add the auto-picked spectrogram into appointed gallery.

A03- Chromatography Data System



Model No. Peak-2000S (Single-channel)
Model No. Peak-2000D (Dual-channel)

Descriptions

A. This software can be connected to all chromatography system, such as GC, HPLC, CPC, IC, CE, and it can replace all traditional recorder and integrator as well.
B. It is compatible with Agilent, Hitachi, Jasco, Perkin-Elemr, Shimadzu, Thermo, Varian and Waters chromatography system.
C. The software has a dual-channel interface, which can receive signal whether directly from signal detector or simultaneously form both detectors.
D. It is a flexible and reliable data handling system designed according to GLP norm. It is better suitable for research or other manufacturing industry.

Features

A. Peak-ABC Chromatography Data Handling System is easy to operate because all you have to do is to learn the functions of these **Six working tables**. While the first two are for acquiring and processing a chromatogram, the remaining four are for identifying components; selecting an appropriate method of an analysis respectively.
B. All the elements of an analysis (e.g. the acquired data signal; the integrated chromatogram; the applied integration methods; to the calculated results) are centralized in one source document called **Chromatogram file** in compliance with GLP requirements.
C. These elements are intelligently structured within one screen comprising our unique **Six working tables** and a **Chromatogram frame** for your easy access and operation.
D. When acquiring a data signal, we apply our patented **Noise Filtering Method** so as to detect the weakest signal close to the Baseline noise.
E. When integrating a chromatogram, setting of parameters has been intelligently automated by the **Default Integration**. When applying **Manual integration** for post-acquisition processing, all you need to do is

just make three clicks on the mouse within the very same screen.

F. When applying Quantitative analysis, you can conveniently choose from the whole range of Quantifying methods by making just one click.

G. For reporting, you can customize the report in **Word** or **WordPad** application to be inclusive of the chromatogram the various calculated statistics and the manually input external reference information.

H. Fully automated via **One-stop processing** with any Autosampler.

I. Other features are **Export to Excel**, **Chromatogram complier**, **Result table complier**, **Save/ Load Template**, etc.

Specifications

Hardware Specifications

- Connect to computer by USB Port Digital Cable, connect to instrument by Signal cable
- 24-bit high precision Analog/Digital conversion device
- Input bipolar range: ±1.3V; ±4V
- Input resistance: > 10MΩ
- Linearity: ±0.005% of full scale
- Acquisition speed: Programmable at 1, 2, 5, 10, 20 Hz.
  Max of 60Hz is available upon request before delivery
- Integration sensitivity: 0.05μV·s
- Consistency: ±0.005%
- Minimum resolution: 1μV
- Accuracy more than 22 bit at 60H
- Equipped with a remote starter to be connected to analytical instrument or Autosampler to receive the Start/Run signal

Computer Requirements

- Intel Pentium 100 or better installed with Windows 95, 98, ME, NT, 2000, or XP
- CD-ROM driver for installation of software
- VGA graphics adapter (800 × 600 or higher resolution is recommended)
- 16M of RAM (32M or higher is better)
- 30M free space on hard disk for software installation
- Free COM/USB port for security key

A04- On-line Solvent Degassing

Descriptions

This on-line solvent degassing equipment is installed between the mobile phase reservoir and HPLC pump. The mobile phase solvent enters the degasser entry through permeable membrane tube placed in a vacuum chamber. Because of the pressure difference of the wall of the permeable membrane tube, the dissolved gas continuously leaks out of the tube thus causing degassing for the mobile phase solvents. The degassed mobile phase is then moved to HPLC pump entrance through the gas-proof tube.

Features

A. The system can continuously remove the dissolved gas from mobile phase.
B. Have advantages of eliminating destabilizing factors and reducing baseline drift and noise.
C. Able to lower interferences toward electrochemical detectors, fluorescence detectors, and ultraviolet detectors.

Specifications

Model	**On-line Solvent Degassing**
Number of channels	2, 3, 4
Internal Volume/channel	15ml
Maximum Flow Rate/channel	10ml/min
Maximum Pressure/channel	5psig
Dimensions (L × W × H)	278mm × 86mm × 155mm
Power Requirement	50/60Hz, 220V/110V
Weight (Kg)	6 Kg

A05- HPLC Column Heater

Descriptions

This instrument is used to stably and precisely control the temperature of analysis thus sensitivity, separation of peaks, analysis time of the chromatography management can be improved to ensure the accuracy and reproducibility of sample results.

A05- HPLC Ch-300 (500) Column Heater

Features

A. Unified design allows the column flexible arrangement of horizontal or vertical setting.
B. Accurate temperature control and display: Two 4-digit LED display can ensure temperature control accuracy to ±0.1ºC.
C. Fast and easy column installation: Magnetic elements create easy opening and closing of the column heater cover.
D. Easy for observation: Transparent window allows clear view inside the HPLC column.
E. Safe anti-leaking design: A container placed under heating chamber can prevent liquid from leaking.
F. Flexible column placement: Provide stainless clamp holder inside heating chamber to make it easy for installing the column under heat.
G. Smooth pipe: Provide smooth connection between input and output ports to guarantee that liquid can pass through.
H. Stable column heater base: Provide additional large size base that can be mounted with column heater when required to stabilize the column heater.
I. Convenient sample inserting valve component kits that can be fixed at any height of the column heater.

Specifications

Model	**HPLC CH-300 (500) Column Heater**
Temperature Range	Room temperature to 100ºC
Max Temperature	110ºC
Temperature Increment	±0.1ºC
Temperature Control Accuracy	±0.1ºC
Temperature Stability	±0.1ºC
Display	4-digit LED Actual Temperature Display (Red) 4-digit LED Set Temperature Display (Green)
Power Consumption	125W (CH-300) 160W (CH-500)
External Dimensions (W × D × H)	CH-300: 64mm × 105mm × 490mm CH-500: 110mm × 105mm × 540mm
Column Dimensions (W × D × H)	CH-300: 45mm × 33mm × 360mm CH-500: 82mm × 33mm × 400mm

A05- HPLC CH-600 Column Heater

Features

A. Super size column heater: Ambient size 145mm × 380mm × 110mm (W × H × D)
B. Three options of column height
C. A powerful fan that can speed up the heating process and make complete circulation of the heat.
D. Accurate temperature control and display: Microprocessor-controlled temperature device allows temperature accuracy to ±1ºC.
E. Easy installation with magnetic doorframe.
F. Easy for observation: Transparent window is easy for monitoring the heating process.
G. Safe anti-leaking design: A container placed under heating chamber can prevent liquid from leaking.
H. Smooth pipe: Provide smooth connection between input and output ports to guarantee that liquid can pass through.

Specifications

Model	**HPLC CH-600 Column Heater**
Temperature Range	Room temperature to 75ºC
Max Temperature	85ºC
Temperature Increment	±1ºC
Temperature Control Accuracy	±0.3ºC
Temperature Stability	±0.2ºC
Display	3-digit LED Actual Temperature Display (Red) 3-digit LED Set Temperature Display (Green)
Power Consumption	300W
External Dimensions (W × D × H)	185mm × 172mm × 530mm
Column Dimensions (W × D × H)	145mm × 110mm × 380mm

A05- HPLC CH-900 Column Heater

Features

A. Powerful: Powerful cooling function enables temperature inside the heating chamber to lower than room temperature by 25ºC.
B. Convenient for use with temperature setting knob and LED display of actual temperature.
C. Accurate: Experiments show temperature accuracy of ±0.3ºC and better.
D. Intelligent: The temperature controlling system can automatically choose to heat or to cool based on the room and set temperature.
E. Flexible: Easy installation of temperature control unit to be suitable for vertical or horizontal arrangement of the column heater.
F. Unified design enables convenient matching with HPLC system.

Specifications

Model	**HPLC CH-900 Column Heater**
Temperature Range	25ºC below room temperature to 75ºC
Max Temperature	80ºC
Temperature Increment	±1ºC
Temperature Control Accuracy	±0.5ºC
Temperature Stability	±0.3ºC
Display	3-digit LED Actual Temperature Display
Power Consumption	150W
External Dimensions (W × D × H)	185mm × 108mm × 490mm
Column Dimensions (W × D × H)	45mm × 26mm × 330mm

A06- Solvent Recycler

Descriptions

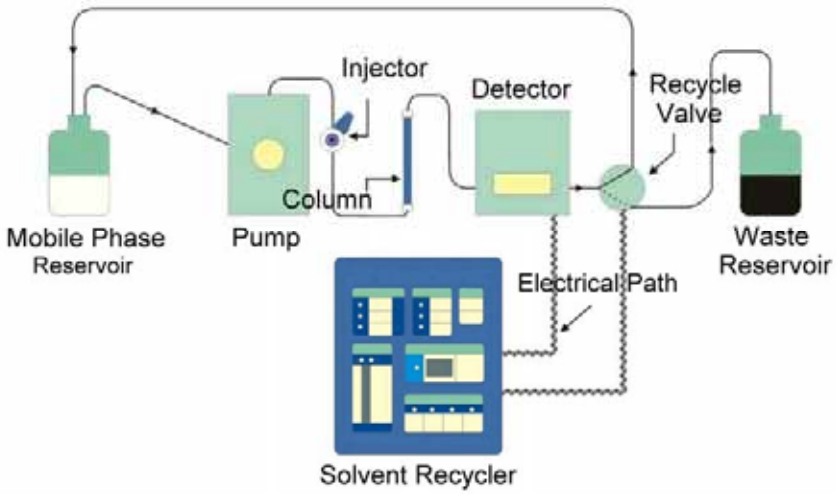
Intelligent mobile phase recycling is accomplished by placing an electronically actuated Recycle Valve in the fluid path between the HPLC detector and the solvent waste reservoir. The signal processor in the recycler controls the valve and monitors the detector signal to determine when peaks appear and when contaminants are passing through the detector flow cell. When a container is detected, the Recycle Valve is diverted to the solvent container. When there is no contaminant detected, the Recycle Valve will bring clean solvent back to the mobile phase reservoir for reuse.

Using this solvent recycler, you can immediately regain your initial investment and enjoy substantial saving of expense and time for years. In addition, this instrument can reduce pollution toward environment, making more efforts to environmental protection.

Features

A. Recycle more than 90% of mobile phase.
B. Manual and automatic program options allow user to control recycling and discarding of solvent.
C. The purity of mobile phase can be controlled precisely by the 4-degree threshold switch.
D. Time delay of the valve switch can be set from 10 to 90 seconds.
E. The selectable three-range input degrees match various HPLC detectors.
F. The polarity and the changing level of detecting signals are showed on the LED display.
G. Auto zero setting.

Specifications



There are three parameter options:

A. Range: Range of this instrument (10mV, 100mV, or1V) matches the HPLC detectors.

B. Threshold:

When the detector's output signal exceeds the selected Threshold value (0.1%, 0.5%, 1%, 5% of full scale), it represents it is the peak of contaminants. The Recycle Valve then sends the contaminated effluent to waste container. The Recycle Valve returns to the recycle position after the detector signal falls below the Threshold value and the Time Delay has elapsed.

C. Time Delay:

It holds the Recycle Valve in the waste position for the specified amount of time (10, 20…, until 90 seconds) after the detector signal drops below the Threshold valve. The Time Delay accounts for tailing peaks and plumbing volume between the detector and the Recycle Valve.

With precise control of these three parameters, the solvent recycling can be accurately and reliably operated without interference.

Model	**Solvent Recycler**
Recycle Valve	2 Position Electronically Actuated All wetted parts are Peek and TFE Fittings are 1/16", 1/4"-28 Flange-Free
Max Flow	50mL/min (As supplied with 1.5M 1/16" Tubing on each port)
Analog Input	10mV, 100mV and 1V
Display	Red and Green LED
Zero Setting	Automatic Zero Setting
Remote Input	Switch or TTL Signal
Power Requirement	13.5Volts DC/500mA
Dimensions	7.28" × 6" × 2.7" (L × W × H) (18.5cm × 14.2cm × 6.28cm)
Weight	2.21bs (1.0Kg)

A07- HPLC Filter Holder

FS-10, FS-20

FS-01

Descriptions

Widely used in gravimeter, microanalysis, colloid dispersion and bacteria-free experiments, this HPLC filter holder can filtrate and degas the mobile phase of HPLC analysis. Besides playing a critical role in lifetime extension of apparatus and HPLC column, the filter holder can enhance measurement accuracy.

The filtration bottles have high pressure endurance, fabulous interchange ability, and well-proportional wall. They are made according to international standard sizes so that they can match most products of foreign brands. In addition, the newly designed solvent pickup adaptor can filtrate or collect solvent directly from solvent bottle through film of filter. This new design makes the process of filtrating become easier and it can dramatically increase effectiveness and reduce air pollution.

Features

A. High-quality and hard-glass materials that can endure more than 200 temperature difference.
B. Elegantly made with well-proportional wall.
C. Good endurance of high pressure and fabulous interchange ability.
D. Made according to international standard sizes that can match most foreign brand products.

Specifications

Packing list of FS-10 and FS-20

Glass Funnel: 47mm, 300ml
Plug
Fritted Glass Support Base: 47mm
Aluminum Clamp: 47mm
Erlenmeyer Flask: 1000ml (FS-10), 2000ml (FS-20)

Packing list of FS-01

Glass Funnel: 47mm, 300ml
Silicone Plug
Aluminum Clamp: 47mm
Fritted Glass Support Base: 47mm
Glass Cover
Beaker
Teflon Base

A08- Vacuum Manifold

Descriptions

Working Theory

This vacuum manifold equipment is a popular pre-treatment technique that has been widely applied in solid phase extraction (SPE). It is basically developed from LLE principle and it also combines application of HPLC and GC. Solid phase extraction (SPE), according to its principle, can be separated to four categories—RP-SPE, NP-SPE, IE-SPE, and SPE (Adsorption). In most cases, SPE is used in liquid sample processing for extraction, condensation, and purification. Solid phase extraction has practical applications in biological liquid, such as urine, blood, blood serum; analysis of food processing such as milk, wine, and juice. Other applications include PAHs and PCBs organic substance analysis, antibiotic and clinical medical analysis.

Application

This equipment of SPE has benefits of safety, high effectiveness, convenience, and less use of organic solvents. Its flexible settlement enables more convenient and easy operation. The basin is made of material of chemically resistant and vacuum-safe glass to provide excellent throughput.

Features

A. Clearly marked ports and racks to ensure correct positioning of collection vessels.
B. Compatible with standard SPE and filtration columns.
C. Individually controlled stopcocks to permit flow control at each position.
D. Basin is made of chemically resistant and vacuum-safe glass.
E. Clear glass basin allows observation of fluids as they pass through columns.
F. Different types of rack to accommodate 12 or 20 samples through collection columns.

Specifications

A. Standard glass basin
B. Collection rack that can accommodate 12 or 20 operating samples
C. Standard collection column

B01- CT-8 Series Double Beam UV/Vis Spectrophotometer

Descriptions

A. CT-8 Series are advanced double beam design consisting of four models; Stand-alone models: CT-8200 with 1.8nm fixed bandwidth and CT-8600 with 1.0 fixed bandwidth; PC models: CT-8100 with 1.8nm fixed bandwidth and CT-8700 with 1.0nm fixed bandwidth. (Other specifications of the four styles are almost the same except bandwidth)

B. The two detectors are measuring sample and reference respectively and simultaneously for optimizing measurement accuracy. They provide accurate measurement in the range of 190nm to 1100nm.

C. All instruments provide excellent performance for measurements:

- To Stand-alone models, all software methods are included as built-in standard, thus eliminating the need for software options.
- On-line software upgrade capability via Internet helps to keep your software up-to-date.
- Data Download-to-PC software expands the data storage to unlimited.

D. This spectrophotometer is suitable for pharmaceutical, biochemical and clinical lab applications as well as routine applications such as quantitative analyses, kinetics, spectrum scanning, multiple components and DNA/Protein analysis.

E. PC Windows® application software and built-in software make this instrument versatile.

Features

A. PC models and Stand-alone models with large graphic LCD display (320 × 240) to directly show graphs on the screen.

B. Unique pre-aligned deuterium lamp for easy lamp replacement to avoid optical adjustment.

C. GLP self-calibrated function can automatically check wavelength and photometric accuracy using validation report.

D. Powerful integrated software for data acquisition:

- Quantitative
- Kinetics
- Wavelength Scanning
- Multi-Wavelength
- DNA/Protein

E. Other features include:

- System examination: Automatic wavelength check, automatic light filter detection, automatic energy detection, and other automatic functions.
- Photometric switch: Able to switch light source in the specific range.
- Photometric cutoff: Automatic cutoff of deuterium lamp and halogen lamp to extend their durability.
- Power failure protection: Research data can be saved and restored when there is power failure.
- Software: Application software can be connected to computer to control equipment operation and analyze experimental data.

Specifications

Model	CT-8200	CT-8100	CT-8600	CT-8700
Optical System	Double Beam, Grating 1200 lines/mm			
Wavelength Range	190-1100nm		190-1100nm	
Spectral Bandwidth	1.8nm		1.0nm	
Wavelength Accuracy	±0.3nm			
Wavelength Repeatability	0.2nm			
Photometric Accuracy	±0.2% T			
Photometric Repeatability	0.15% T			
Stray Light	<0.05% T			
Baseline Stability	±0.0005 A/h			
Baseline Flatness	±0.0005 A (200-1000nm)			
Display	LCD (320 × 240) & PC Model	PC Model	LCD (320 × 240) & PC Model	PC Model
Photometric Mode	T, A, E			
Scanning Speed	High, Med., Low. , Max. 3000nm/min			
Wavelength Setting	Automatic			
Photometric Range	-0.3-3 A, 0-200% T, 0-9999 Conc.			
Detector	Si Photodiode			
Light Source	Halogen & Deuterium Lamp (pre-aligned)			
Keyboard	Membrane Keypad or PC			
Output	USB Port & Parallel Port (Printer)			
Power Requirement	AC 220V/50Hz or AC 110V/60Hz			
Dimensions (W × D × H)	600mm × 450mm × 200mm			
Weight	27Kg		27Kg	

Packing list

Spectrophotometer…… 1
Mains Lead……... 1
Cuvettes…… Set of 4, glass
Set of 2, quartz
USB Cord 1
User Manual……. 1
UV-Vis Analyst Software……. 1
Software Manual…….. 1

Optional accessories

SINGLE CELL HOLDER FOR 10MM SQU.CUVT.
CYLINDRICAL CELL HOLDER
TEST TUBE HOLDER (ø8-Ø22mm)
LONG PATH CELL HOLDER
MICRO CELL HOLDER
WATER-JACKETED CELL HOLDER
PELTIER/SIPPER SYSTEM
REFLECTANCE MEACHMENT ATTACHMENT
PRINTER

B01- CT-5, CT-6 Series Single Beam UV/Vis Spectrophotometer

Descriptions

A. CT-5, CT-6 Series are advanced single beam design consisting of 10 models. Different one with different bandwidth and wavelength accuracy. All of them provide excellent performance for measurement in the range of 190nm to 1100nm.

B. CT-5, CT-6 series can be divided into two types—PC Models and Stand-alone Models, separately offer excellent performance.

- To Stand-alone models, all software methods are included as built-in standard, thus eliminating the need for software options.
- Online software upgrade via Internet helps to keep your software up-to-date.
- Data Download-to-PC software expands the data storage to unlimited.

C. The CT-5, CT-6 series are suitable for clinical lab applications, pharmaceutical and biochemical as well as routine applications such as quantitative analyses, kinetics, wavelength scanning, multiple components and DNA/Protein analysis.

D. PC Windows® application software and built-in software make this instrument versatile.

Features

A. PC models and Stand-alone models with large graphic LCD display (320 × 240) to directly show graphs on the screen.

B. Unique pre-aligned deuterium lamp for easy lamp replacement to avoid optical adjustment.

C. GLP self-calibrated function can automatically check wavelength and photometric accuracy using validation report.

D. Powerful integrated software for data acquisition:

- Quantitative—Establish or use stored calibration equation to measure the concentration of unknowns.
- Kinetics—Measurement of absorbance changing vs. time with reaction rate calculation function.
- Wavelength Scanning—Spectrum scan of sample at any selected wavelength range with choice of scanning speed and wavelength interval.
- Multi-Wavelength—Measurement at multiple wavelengths to analyze and determine the composition of mixtures.
- DNA/Protein—Calculation of concentration and DNA purity. Ratio at other wavelengths can be measured.

F. Other features include:

- System examination: Automatic wavelength check, automatic light filter detection, automatic energy detection, and other automatic functions.
- Photometric switch: Able to switch light source in the specific range.
- Photometric cutoff: Automatic cutoff of deuterium lamp and halogen lamp to extend their durability.
- Power failure protection: Research data can be saved and restored when there is power failure.
- Software: Application software can be connected to computer to control equipment operation and to analyze experimental data.

Specifications

Model	**CT-5000** **CT-5100**	**CT-5600** **CT-5700**	**CT-6200** **CT-6100**	**CT-6400** **CT-6300**	**CT-6600** **CT-6500**
Optical System	Single Beam, Grating 1200 lines/mm				
Wavelength Range	190-1100nm				
Spectral Bandwidth	4.0nm	2.0nm	1.8nm	0.5/1.0/2.0/4.0nm	1.0nm
Wavelength Accuracy	±0.5nm		±0.3nm		
Wavelength Repeatability	0.3nm		0.2nm		
Photometric Accuracy	±0.3% T		±0.2% T		
Photometric Repeatability	0.2% T		0.15% T		
Stray Light	<0.05% T				
Baseline Stability	±0.002 A/h		±0.001 A/h		
Baseline Flatness	±0.002 A (200-1000nm)		±0.001 A (200-1000nm)		
Display	LCD (320 × 240) / PC Model (Please see page 28)				
Photometric Mode	T, A, E				
Scanning Speed	High, Med., Low. , Max. 3000nm/min				
Wavelength Setting	Automatic				
Photometric Range	-0.3-3 A, 0-200% T, 0-9999 Conc.				
Detector	Si Photodiode				
Light Source	Halogen & Deuterium lamp (pre-aligned)				
Keyboard	Membrane Keypad (CT-5000, CT-5600) Membrane Keypad or PC (CT-5100, CT-5700, CT-6100, CT-6200, CT-6300, CT-6400, CT-6500, CT-6600)				
Output	USB Port & Parallel Port (Printer)				
Power Requirement	AC 220V/50Hz or AC 110V/60Hz				
Dimensions (W × D × H)	480mm × 360mm × 160mm		600mm × 450mm × 200mm		
Weight	16Kg		25Kg		

Packing list

Spectrophotometer…… 1

Mains Lead……... 1

Cuvettes…… Set of 4, glass

Set of 2, quartz

USB Cord 1

User Manual……. 1

UV-Vis Analyst Software……. 1

Software Manual…….. 1

* CT-5000 and CT-5600 do not include the software and USB.

Optional accessories

SINGLE CELL HOLDER FOR 10MM SQU.CUVT.

CYLINDRICAL CELL HOLDER

TEST TUBE HOLDER (ø8-Ø22mm)

LONG PATH CELL HOLDER

4-CELL HOLDER FOR UP TO 50MM SQU.CUVETTE

4-CELL HOLDER FOR UP TO 100MM SQU.CUVETTE

MICRO CELL HOLDER

WATER-JACKETED CELL HOLDER

PELTIER/SIPPER SYSTEM

8-POSITION AUTO CELL CHANGER

REFLECTANCE MEACHMENT ATTACHMENT

PRINTER

DONGLES FOR 31.61 APPLICATION SOFTWARE (CT-5000 and CT-5600)

B01- CT-2500~CT2800 Series Spectrophotometer

Descriptions

A. CT-2500~CT-2800 Series are developed for precise test for its stray light is only 0.05%T.
B. This series have benefits of flexible, user-friendly, and maximized value. The value is evident from the performance provided every day.
C. The local stand-alone software provides functions of basic model, quantitative test, kinetics, and system utilities.
D. System can save research results up to 200 group of data and 200 curves in the RAM for random check and reload.

Features

A. Large graphic LCD display (128 × 64) to directly show graphs on the screen, displaying a total of 200 groups of data, 5 groups per screen.
B. Pre-aligned deuterium lamp for easy lamp replacement to avoid optical adjustment.
C. Automatically check wavelength and photometric accuracy using validation report.
D. Powerful integrated software for data acquisition:
   - Quantitative
   - Kinetics
   - Wavelength Scanning

F. Other features include:
   - System examination: Automatic wavelength check, automatic light filter detection, automatic energy detection, and other automatic functions.
   - Photometric cutoff: Automatic cutoff of deuterium lamp and halogen lamp to extend their durability.
   - Power failure protection: Research data can be saved and restored when there is power failure.
   - Software: Application software can be connected to computer to control equipment operation and to analyze experimental data.

Specifications

Model	CT-2500	CT-2700	CT-2600	CT-2800
Optical System	Single Beam, Grating 1200 lines/mm			
Wavelength Range	320-1100nm		190-1100nm	
Spectral Bandwidth	4nm	2nm	4nm	2nm
Wavelength Accuracy	±0.5nm			
Wavelength Repeatability	0.3nm			
Photometric Accuracy	±0.3% T			
Photometric Repeatability	0.2% T			
Stray Light	0.05% T (360nm)		0.05% T (220nm, 360nm)	
Baseline Stability	±0.002 A/h (500nm)			
Display	LCD (128 × 64)			
Photometric Mode	T, A, E			
Wavelength Setting	Automatic			
Photometric Range	-0.3-3 A, 0-200% T			
Detector	Si Photodiode			
Light Source	Tungsten lamp		Tungsten & Deuterium	
Keyboard	Membrane Keypad			
Output	USB Port & Parallel Port (Printer)			
Power Requirement	AC 220V/50Hz or AC 110V/60Hz			
Dimensions (W × D × H)	470mm × 370mm × 180mm			
Weight	14Kg		16Kg	

Packing list of CT-2600 and CT-2800

Spectrophotometer…… 1
Mains Lead…….... 1
Cuvettes…… Set of 4, glass
Set of 2, quartz
User Manual……. 1

Packing list of CT-2500 and CT-2700

Spectrophotometer…… 1
Mains Lead…….... 1
Cuvettes…… Set of 4, glass
User Manual……. 1

Optional accessories

SINGLE CELL HOLDER FOR 10MM SQU.CUVT.
CYLINDRICAL CELL HOLDER
TEST TUBE HOLDER (ø8-Ø22mm)
LONG PATH CELL HOLDER
4-CELL HOLDER FOR UP TO 50MM SQU.CUVETTE
4-CELL HOLDER FOR UP TO 100MM SQU.CUVETTE
MICRO CELL HOLDER
WATER-JACKETED CELL HOLDER
PELTIER/SIPPER SYSTEM
PRINTER
COMMON SOFTWARE FOR 1600 AND 1800
ADVANCED PC WINDOW SOFTWARE

B01- CT-2300/CT-2400 Series Spectrophotometer

Descriptions

A. CT-2300 and CT-2400 series spectrophotometer have attractive performance for general data. As long as you use your standard sample solution, you can get a standard curve on the large LCD screen by local control software. In addition, you can print the curve through USB or analog port.

B. Functions of this instrument include:

- Basic model—Absorbance, transmittance, or concentration measurement.
- Quantitative

a) Standard Curve—At least 9 standard samples can be used to establish a standard curve. The curve and the curve equation will be displayed on the screen simultaneously to measure concentration of unknown solutions by the curve.

b) Coefficient Method—If you have known the coefficient of k&b of the formula C=kA+b, you can input the value and then test the unknown solutions.

C. This instrument has been widely used in colleges and enterprises for general quantitative analysis and experiments.

Features

A. Large graphic LCD display (128 × 64) to directly show graphs on the screen, displaying a total of 50 groups of data and being able to save the research data.

B. Pre-aligned deuterium lamp for easy lamp replacement to avoid optical adjustment.

C. Power failure protection: Research data can be saved and restored when there is power failure.

D. Automatically check wavelength and photometric accuracy using validation report.

E. Powerful integrated software for data acquisition for basic measurement and analysis.

F. Other features include spectrum test, wavelength check, standard curve, and application software.

Specifications

Model	**CT-2300**	**CT-2400**
Optical System	Single Beam, Grating 1200 lines/mm	
Wavelength Range	325-1000nm	200-1100nm
Spectral Bandwidth	4nm	
Wavelength Accuracy	±1nm	
Wavelength Repeatability	1nm	
Photometric Accuracy	±0.5% T	
Photometric Repeatability	0.3% T	
Stray Light	0.3%T	
Baseline Stability	±0.004 A/h (500nm)	
Display	LCD (128 × 64)	
Photometric Mode	T, A, E	
Wavelength Setting	Automatic	
Photometric Range	-0.097-2.5 A, 0-125% T	
Detector	Si Photodiode	
Keyboard	Membrane Keypad	
Light Source	Tungsten lamp	Tungsten & Deuterium
Output	USB Port & Parallel Port (Printer)	
Power Requirement	AC 220V/50Hz or AC 110V/60Hz	
Dimensions (W × D × H)	470 × 370 × 180mm	
Weight	12Kg	12Kg

Packing list of CT-2400

Spectrophotometer…… 1
Mains Lead……... 1
Cuvettes…… Set of 4, glass
Set of 2, quartz
User Manual…… 1

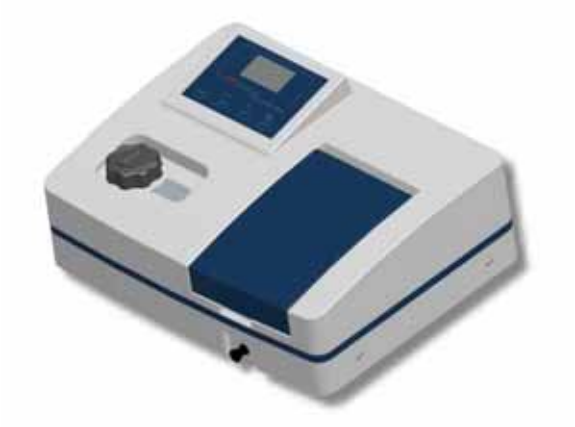
Packing list of CT-2300

Spectrophotometer…… 1
Mains Lead……... 1
Cuvettes…… Set of 4, glass
User Manual…… 1

Optional accessories

SINGLE CELL HOLDER FOR 10MM SQU.CUVT.
CYLINDRICAL CELL HOLDER
TEST TUBE HOLDER (ø8-Ø22mm)
LONG PATH CELL HOLDER
4-CELL HOLDER FOR UP TO 50MM SQU.CUVETTE
4-CELL HOLDER FOR UP TO 100MM SQU.CUVETTE
PRINTER
COMMON SOFTWARE

B01- CT-1500/CT-2200 Spectrophotometer



CT-1500

CT-2200

Descriptions

A. CT-1500 is the only style of manual-setting wavelength function among CT spectrophotometers. Its precise design and high quality components ensure excellent performance.
B. Because of its convenience this instrument has been widely used in high schools and colleges for general analysis and experiments.

Features

A. High quality silicon photometric diode detector and 1200 lines/mm grating ensure high accuracy and precision.
B. Digital display for easy readout.
C. Pre-aligned deuterium lamp for easy lamp replacement to avoid optical adjustment.
D. Auto zero setting for easy use and simple switch to transmittance, absorbance and concentration models.
E. With RS-232C port, data can be exported to printer directly.
F. Optional software based on Windows® can extend the application to standard curve and kinetics through the RS-232C port.

Besides features mentioned above, CT-2200 contains other features include:

A. Large LCD display (128 × 64)
B. Able to display and save 50 groups of data, 3 groups per screen.
C. Data can be saved and restored when there is sudden power failure.
D. Three-point method to measure concentration of unknown samples.
E. Automatic cutoff of deuterium lamp and halogen lamp to extend their durability.

Specifications

Model	**CT-1500**	**CT-2200**
Optical System	Single Beam, Grating 1200 lines/mm	
Wavelength Range	325-1000nm	200-1000nm
Spectral Bandwidth	5nm	
Wavelength Accuracy	±2nm	
Wavelength Repeatability	1nm	
Photometric Accuracy	±0.5% T	
Photometric Repeatability	0.3% T	
Stray Light	0.5% T	
Baseline Stability	±0.004 A/h (500nm)	
Display	3.5 bits LCD	LCD (128 × 64)
Photometric Mode	T, A, E	
Wavelength Setting	Manual	Automatic
Photometric Range	-0.097-1.999 A, 0-125% T	
Detector	Si Photodiode	
Light Source	Tungsten lamp	Tungsten & Deuterium
Keyboard	Membrane Keypad	
Output	RS-232C Port	USB Port & Parallel Port (Printer)
Power Requirement	AC 220V/50Hz or AC 110V/60Hz	
Dimensions (W × D × H)	480mm × 360mm × 160mm	470mm × 370mm × 180mm
Weight	8Kg	12Kg

Packing list of CT-2200

Spectrophotometer…… 1
Mains Lead……... 1
Cuvettes…… Set of 4, glass
Set of 2, quartz
User Manual……. 1

Packing list of CT-1500

Spectrophotometer…… 1
Mains Lead……... 1
Cuvettes…… Set of 4, glass
User Manual……. 1

Optional accessories

SINGLE CELL HOLDER FOR 10MM SQU.CUVT.
CYLINDRICAL CELL HOLDER
TEST TUBE HOLDER (ø8-Ø22mm)
LONG PATH CELL HOLDER
4-CELL HOLDER FOR UP TO 50MM SQU.CUVETTE
4-CELL HOLDER FOR UP TO 100MM SQU.CUVETTE
PRINTER
COMMON SOFTWARE

Model	Optical System	Wavelength Range	Spectral Bandwidth	Kinetics	DNA/Protein	Scanning	Display	PC Software
CT-8600	Double Beam	190~1100nm	1nm	○	○	○	LCD 320*240	○
CT-8700	Double Beam	190~1100nm	1nm	○	○	○	X	○
CT-8200	Double Beam	190~1100nm	1.8nm	○	○	○	LCD 320*240	○
CT-8100	Double Beam	190~1100nm	1.8nm	○	○	○	X	○
CT-6600	Single Beam	190~1100nm	1nm	○	○	○	LCD 320*240	○
CT-6500	Single Beam	190~1100nm	1nm	○	○	○	X	○
CT-6400	Single Beam	190~1100nm	0.5/1.0/2.0/4.0mm	○	○	○	LCD 320*240	○
CT-6300	Single Beam	190~1100nm	0.5/1.0/2.0/4.0mm	○	○	○	X	○
CT-6200	Single Beam	190~1100nm	1.8nm	○	○	○	LCD 320*240	○
CT-6100	Single Beam	190~1100nm	1.8nm	○	○	○	X	○
CT-5600	Single Beam	190~1100nm	2nm	○	○	○	LCD 320*240	X
CT-5700	Single Beam	190~1100nm	2nm	○	○	○	LCD 320*240	○
CT-5000	Single Beam	190~1100nm	4nm	○	○	○	LCD 320*240	X
CT-2800	Single Beam	190~1100nm	2nm	○	X	X	LCD 128*64	X
CT-2600	Single Beam	190~1100nm	4nm	○	X	X	LCD 128*64	X
CT-2400	Single Beam	200~1100nm	4nm	X	X	X	LCD 128*64	X
CT-2200	Single Beam	200~1100nm	5nm	X	X	X	LCD 128*64	X
CT-2700	Single Beam	320~1100nm	2nm	○	X	X	LCD 128*64	X
CT-2500	Single Beam	320~1100nm	4nm	○	X	X	LCD 128*64	X
CT-2300	Single Beam	325~1000nm	4nm	X	X	X	LCD 128*64	X
CT-1500	Single Beam	325~1000nm	5nm	X	X	X	3.5 bits LCD	X

B02- Ultrasonic Cleaner

Descriptions

Working Theory

Ultrasonic cleaner sends out high frequency shaking signal, which is converted into high frequency mechanical shaking, spreads in the solvent and produces thousands of tiny bubbles. These bubbles are formed and developed in the negative pressure area in the transferring process. Later, they are immediately closed in the positive pressure area. Instantaneous high pressure of more than 1000p is then produced and this process is called vacuum effect. It is just like a series of explosions, which constantly heat the surface of the subject and reach the purpose of complete cleaning.

Incredible Cleaning Effect

Because of its special design, this instrument has improved both dissolution and emulsifications in solution. Besides, this ultrasonic cleaner has great degassing effect without causing pollution to environment; therefore it has been widely used in machinery, electronics, medical, chemical tests and other industries.

Applications

This ultrasonic cleaner series are ideal instruments used in professional fields such as electronic apparatus, semiconductor chips, circuit panel, optical lens, audio magnetic recording heads, etc. It is also widely applied in biochemical, chemical, and medical fields. The power consumption of the ultrasonic cleaner ranges from 60W to 2000W, volume ranges from 2 litters to 22 liters, ultrasonic frequency varies from 40HKz, 60HKz.

B02- UC-B(H) Series Ultrasonic Cleaner

Features

A. Dual digital display to show actual time and set time.
B. Power adjustment makes this instrument more available for various uses.
C. Time adjustment for continuous or set time.
D. Rack and noise reduction chamber attached
E. 40KHz (B): Strong cleaning effect
   60KHz (H): Low noise and high penetration

Specifications

Model	UC-3120B(H)	UC-5150B(H)	UC10200B(H)	UC-20500B(H)
Capacity (L)	3L	6L	10L	22L
Exterior Dimensions (mm) (W×L×H)	265 × 160 × 240	320 × 175 × 290	330 × 270 × 290	530 × 350 × 335
Interior Dimensions (mm) (W×L×D)	235 × 135 × 100	300 × 150 × 150	300 × 250 × 150	490 × 295 × 150
Power Consumption (W)	120/100	180/150	280/250	500/420
Power Adjustment (%)	10 ~ 100	10 ~ 100	10 ~ 100	10 ~ 100
Ultrasonic Frequency (KHz)	40(B)/60(H)	40(B)/60(H)	40(B)/60(H)	40(B)/60(H)
Degassing Adjustment	1 ~ 9	1 ~ 9	1 ~ 9	1 ~ 9
Time Set (min)	1 ~ 99	1 ~ 99	1 ~ 99	1 ~ 99
Water Outlet	No	No	Yes	Yes
Exterior Material	Aluminum	Aluminum	Aluminum	Aluminum

B02- UC-BDT Series Ultrasonic Cleaner

Features

A. Dual digital display to show actual time and set time
B. Time adjustment
C. Power adjustment
D. Degassing adjustment
E. Dual frequency: 40KHz and 60KHz
F. Heating temperature control

Specifications

Model	**UC-7240BDT**	**UC-10200BDT**	**UC-20500BDT**
Capacity (L)	7L	10L	22L
Exterior Dimensions (mm) (W×L×H)	530 × 160 × 270	330 × 270 × 290	530 × 350 × 335
Interior Dimensions (mm) (W×L×D)	470 × 135 × 100	300 × 250 × 150	490 × 295 × 150
Power Consumption (W)	240/200	280/250	500/420
Power Adjustment (%)	30 ~ 100	30 ~ 100	30 ~ 100
Ultrasonic Frequency (KHz)	40/60	40/60	40/60
Degassing Adjustment (section)	1 ~ 9	1 ~ 9	1 ~ 9
Time Set (min.)	1 ~ 99	1 ~ 99	1 ~ 99
Heating Temperature Control	Room temperature + 5ºC ~ 99ºC		
Heating Power Consumption (W)	500	1000	1000
Water Outlet	Yes	Yes	Yes
Exterior Material	Stainless steel	Aluminum	Aluminum

B03- Ultrasonic Processor

Descriptions

Working Theory

The ultrasonic power supply generates high frequency electrical signals, which is applied to the piezoelectric crystals within the converter, where it is changed to mechanical vibration. The longitudinal vibrations are amplified by the probe and transmitted to the cleaning liquids, which consist of alternate compression and rarefactions. These pressure fluctuations create microscopic bubbles, which expand during the negative pressure excursions, and implode violently during the positive excursions. As the bubbles collapse, millions of shock waves (extreme in pressure and temperature) are generated at the implosion sites. This pressure is then used for disruption of cell structure.

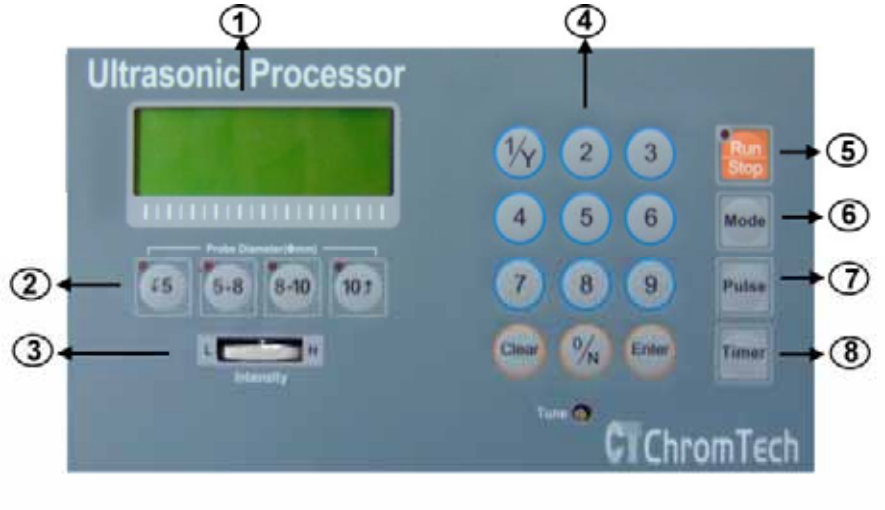
Applications

This ultrasonic equipment includes a variety of applications such as disruption of cell structure, e.g. bacteria, virus, spores. Besides, it also has functions to homogenize, emulsify, intermix, degas, disintegrate, and so forth. Therefore, it has been widely used in research of biology, medical science, chemical, food, cosmetics, environmental protection, and other related industries.

Features

A. Convenient and precise digital display and control.
B. Variable safe control of power output to protect samples.
C. Output amplitude can be adjusted according to the Tip Size.
D. Intensity display with max intensity control.
E. Two operation options are available: pulse modulation and constant output.
F. Pulse width and interval time can be set from 0.1 to 9.9 secs. during pulse working.
G. External control interface is available for direct operation.

Specifications



Introduction of front panel

1. Liquid crystal display
2. Max intensity: the button is to control the ultrasonic output intensity. It has 4 levels: 5mm, 5-8mm, 8-10mm and 10mm.
3. Intensity: can change according to the Tip size.
4. Number inputting button
5. Start/Stop: operate or stop button.
6. Mode: The change button between pulse modulate and constant output.
7. Pulse: To set the output amplitude in constant operation. Imputing the number can set the time. Pulse wide is from 0.1 to 9.9 secs.
8. Timer: Display shows the set time and the time remaining in minutes and seconds.

Notice: Interval pulse modulates can prevent accumulating too much heating in the liquid and so can offer more effective result. The temperature can be set and controlled.

(Notice: Over strong output power will damage the slender converter, so please choose the position according to the following demand:)

1/8” Tip set ⑤

3/16”Tip set ⑤

1/4” Tip set ⑤ or 5-8

1/2”, Tip set ⑤ or 5-8 or 8-10 or 10

Model	Power (W)	Converter	Sample Volume
UP-100	100	**1/8”**, 3/16”	100ul~80ml
UP-500	500	1/8”, 3/16”, 1/4”, **1/2”**	250ul~600ml
UP-800	800	1/8”, 3/16”, 1/4”, **1/2”**, 3/4”	250ul~1200ml
UP-1200	1200	1/8”, 3/16”, 1/4”, 1/2”, **3/4”**	250ul~1200ml

* Our Ultrasonic Processor is equipped with Converter, Tip (UP-100: 1/8”; UP-500: 1/2”; UP-800: 1/2”; UP-1200: 3/4”), Sound Abating Enclosure, Elevator, Temperature Control Sensor, External Pedal Switch, Power Cord.

* The watt shown is the highest power output.

Converter Model:

1/8” (3mm)

3/16” (5mm)

1/2” (13mm)

3/4” (19mm)

B03-Hand-held Ultrasonic Processor

Descriptions

Working Theory

The ultrasonic power supply generates high frequency electrical signals, which is applied to the piezoelectric crystals within the converter, where it is changed to mechanical vibration. The longitudinal vibrations are amplified by the probe and transmitted to the cleaning liquids, which consist of alternate compression and rarefactions. These pressure fluctuations create microscopic bubbles, which expand during the negative pressure excursions, and implode violently during the positive excursions. As the bubbles collapse, millions of shock waves (extreme in pressure and temperature) are generated at the implosion sites. This pressure is then used for disruption of cell structure.

Model	Power (W)	Converter	Sample Volume	
UP-80	80	**1/8”**	100ul~80ml	

The Hand-held Ultrasonic Processor is equipped with Converter Probe 1/8”, Power Cord.

The Hand-held Ultrasonic Processor is easy to operate.

1. Connect the probe connection line to the processor.
2. Connect the power.
3. "ON"Switch on the processor.
4. Put tip into the sample, and continuously press the red button on the probe to start. If not pressing the red button, the motion will stop.

B04- Pressure Blowing Concentrator

SC-2800D

SC-2800W

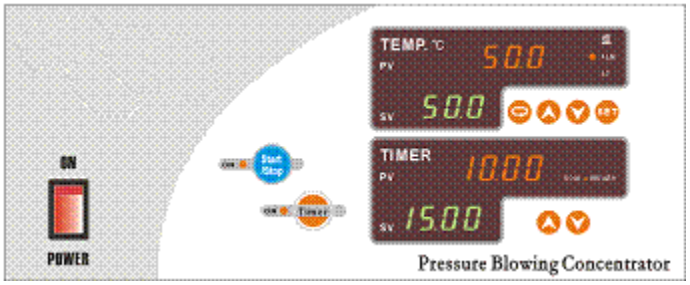
Descriptions

This equipment is designed to apply to preparative samples in chromatography, or mass spectrographic analysis. It adopts the international approval method to proceed with sample concentration by introduction of nitrogen to heat up the surface. This pressure blowing concentrator has benefits of time-saving, easy-control, and user-friendly, and it can soon achieve anticipated results. It enables rapid samples of separation and purification by applying solid phase extraction (SPE) process to replace conventional liquid extraction and chromatography procedures.

Features

A. Gas is ducted above the solution surface in a vial through a switching valve and a needle.
B. SC-2800W Water bath rack can be placed in the tank or out of the tank, and the rack can be fixed at any height of the crutch.
C. SC-2800D Dry bath uses aluminum block as conducting interface for quick heating and temperature control.
D. Heating blocks of variable holes and accompanied needles are available. Tubes are separately placed on the rack without causing cross contamination.
E. Special design of water container to prevent the inner elements from damage of leaking liquid.
F. Thicker aluminum heating block can provide more even and precise temperature. Actual temperature is measured by the built-in temperature sensor.
G. Two sets of dual 4-digit display to separately show set/actual temperature and set/operating time.
H. Automatic temperature protection alarm guarantees safe and reliable operation.

Specifications



SC-2800D-12

Model	**SC-2800W Water Bath**	**SC-2800D Dry Bath**
Heating Samples	12, 24, 40 tubes	
Temperature Range	Room temperature + 5ºC ~ 180ºC	
Max Temperature Protection	185ºC	
Max Temperature	Set temperature + 5 ºC	
Temperature Accuracy	±0.1ºC	
Time Set	10min~99hr 59min	
Power Consumption	350W	
Holes of Heating Block (SC-2800D)	Standard size 6/12/20 holes Double size 12/24/40 holes	
Dimensions of Heating Block (SC-2800D)	2 Standard size: 95mm × 70mm × 75mm (W × H × L) 1 Double size: 150mm × 70mm × 95mm (W × H × L)	
External Dimensions (W × D × H)	240mm × 130mm × 215mm (rack height is not included)	

SC-2810D Series (Larger opening size)

Model	**SC-2810D-8 (8 tubes)**	**SC-2810-D-12 (12 tubes)**
Temperature Range	Room temperature + 5ºC ~ 300ºC	
Max Temperature Protection	385ºC	
Max Temperature	Set temperature + 5ºC	
Temperature Accuracy	±0.1ºC	
Operating Temperature	5ºC ~ 35ºC	
Time Set	10min ~ 99hr 59min	
Power Consumption	1350W	
Holes of Heating Block	8/12 holes	
Dimensions of Heating Block	210mm × 95mm × 150mm (W × L × D)	
External Dimensions (W × D × H)	268mm × 230mm × 165mm (rack height is not included)	

B05- Magnetic Stirrer

Descriptions

The working theory of this product is using micro electrical machinery to drive the heatproof magnet to spin, thus creating a magnetic field. This magnetic field will drive the stir bar to spin in the container and later it will cause spin of the solvent. Meanwhile, it can heat the solvent so that it can be fully mixed at set temperature. This product has been widely applied in biology, medicine, chemistry, chemical engineering and other related fields.

B05- MS3250C Magnetic Stirrer

Features

A. Constantly adjustable stirring speed and heating temperature.
B. Heating plate is made out of aluminum alloy and coated with Teflon to provide excellence of heat conductivity, heat/cold proof and corrosion resistance.
C. Double heat insulation design is applied in the bottom of the heating plate to improve the heating efficiency and can avoid the heat transmitting to the case.
D. The one-piece shaping case and the convex design on the top can prevent the electronic parts from damaging of spilling solvent.
E. Unique design that can control and display the plate temperature at the same time control temperature of the solvents in the container through temperature sensor.

Specifications

Model	**MS-3250C**
Speed (rpm)	100 ~ 1700
Max Stirring Volume	10L
Temperature Range	Room temperature~199ºC
Max Temperature	300ºC
Temperature Accuracy	±2ºC
Temperature Sensor	Yes
Counterclockwise Function	No
Heating Plate Diameter	150mm
Max Power Consumption	250W
Dimensions (W × D × H)	198mm × 225mm × 115mm
Weight (Kg)	2.4Kg

* Temperature Range: The highest temperature of liquid; Max Temperature: The highest temperature of hot plate

B05- MS5250 Magnetic Stirrer

MS-5250A

Features

Besides features of MS-3250, MS5250 have more features include:

A. Use DC Motor to drive stir bar.

B. Stable speed adjustment from 0 to 1500rpm.

C. Temperature of heating plate can go up to 350ºC.

D. The stir bar can go clockwise or anti-clockwise; alternate time is 0.5~3.0min

Specifications

Model	**MS-5250A**	**MS-5250B**	**MS-5250C**
Speed (rpm)	100 ~ 1700	100 ~ 1700	100 ~ 1700
Max Stirring Volume	10L	10L	10L
Temperature Range	Room temperature~199ºC	Room temperature~199ºC	Room temperature~199ºC
Max Temperature	350ºC	350ºC	350ºC
Temperature Accuracy	--	±2ºC	±2ºC
Temperature Sensor	--	Yes	Yes
Counterclockwise Function	No	No	Yes
Heating Plate Diameter	150mm	150mm	150mm
Max Power Consumption	350W	350W	350W
Dimensions (W × D × H)	198mm × 225mm × 115mm		
Weight (Kg)	2.4Kg	2.4Kg	2.4Kg

* Temperature Range: The highest temperature of liquid; Max Temperature: The highest temperature of hot plate

B06- Shaker

SH-50AFS

SH-50ARCS

SH-100AVS

Descriptions

A. There are various types of shakers are available, including orbital shaking motion, circular shaking motion, and horizontal shaking motion.
B. Time adjustment: operation of set time (3 ~ 60min) or continuous.
C. Shakers are made of materials of high thermostability, anti-acid and anti-alkali materials, having good endurance.
D. Shaker base has four stationary suckers to prevent any migration of work.

Features

A. Adjustable speed from 0 to 150rpm.
B. Able to be placed in a temperature chamber with max temperature to 80ºC
C. Especially ideal for fermentation and cell culture.

Specifications

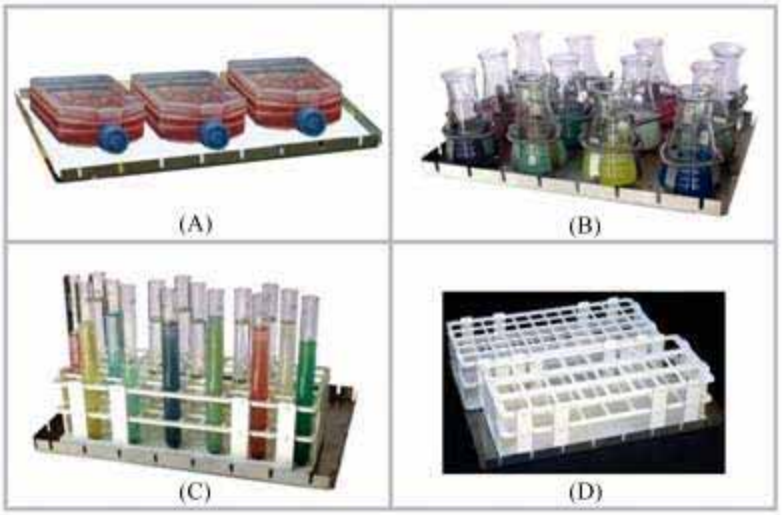
Model	SH-50AFS	SH-50ARCS	SH-100AVS
Speed Range	0 ~ 150rpm	0 ~ 350rpm	0 ~ 2500rpm
Vibrating Motion	Orbital	Horizontal	Circular
Vibrating Displacement	--	10mm	4.5mm
Max Load	2Kg	3Kg	1Kg
Time Set	3~60min or continuous	3~60min or continuous	3~60min or continuous
Weight (Kg)	2.4Kg	2.7Kg	8.2Kg

Size of plate: 21cm*29cm

Plate assembly: conical flask, 50ml *8 sets, or 100ml *5sets, or 200ml *2 sets

Standard stainless holder with our products: 50ml *2, 100ml *2 and 200ml *2

The Equipped with the holders (B) and (D):



B07- Peristaltic Pump

Descriptions

Working Theory

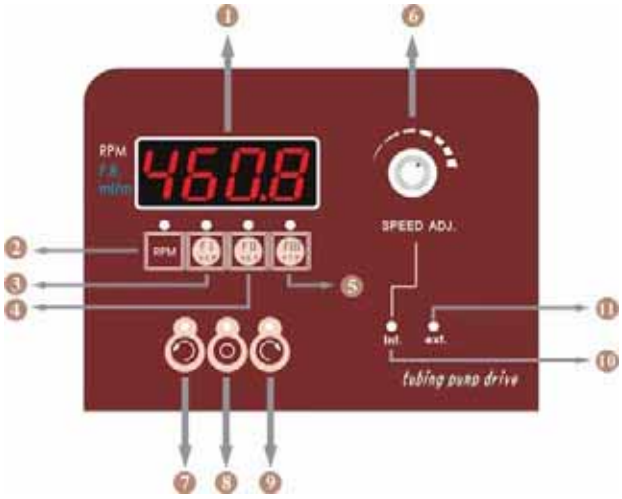
When you press the soft pipe filled with liquid, the liquid inside the pipe will move forward along with the movement of the finger. This instrument applied this basic principle but replace the finger with the pump head to transport the liquid. This peristaltic pump is especially useful because the tube and the pump head configuration can be chosen based upon customer's requirements.

Applications

Peristaltic pump has long been an ideal equipment used in biochemistry, pharmaceutical products, viscous, corrosive and corrosive fluids; widely used in food, chemistry, waste processing industries and other related fields.

Features

A. Avoid pollution: Fluid is completely transported in the tube; the pump and the fluid are free from pollution.
B. Ideal equipment for biochemistry, pharmaceutical products, viscous, corrosive and corrosive fluids; widely used in food, chemistry, chemistry, waste processing industries and other related fields.
C. Precise measurement: Low-pulse pump conforms to the high accuracy current capacity requirement of the liquid.
D. Easy to maintain: It takes only a few minutes to change transmission fluid; no valves or other sealing components to avoid maintenance cost.
E. Special design for pump lock of each size to enable long-term use of the tube.
F. Instant start and stop of the tube ensure more precise control of the fluid.
G. Enable to drive 1 to 3 pumps with easy connection.
H. Unique digital design makes working operation very fluent and precise.
I. Large 4-digit LED display allows speed resolution to 0.1rpm.



Introduction of front panel

1. rpm/f.r. display window, the displayed content in the window is separately controlled by 2345 button.
2. RPM button, press this button, the display window displays the rpm value of the pump head.
3. “F Ⅰ” fluid rate No.1 (fluid rate display when use ø4.8mm inner diameter tube)
4. “F Ⅱ” fluid rate No.2 (fluid rate display when use ø6.4mm inner diameter tube)
5. “F Ⅲ” fluid rate No.3 (fluid rate display when use ø7.9mm inner diameter tube)
6. Speed control knot under internal control mode. It is not useful when the pump is under external control mode.
7. Pump head start button~anti-clockwise direction.
8. Pump head stop button.
9. Pump head start button~clockwise direction.
10. Indicator for external control mode.

Tube Installation

Turn the lock handle to the left to open the lock.	Insert the tube into the head of the lock.	Turn the lock handle to right to close the lock.

Model	**Peristaltic Pump**
Display	4-digit LED display
Display Speed Range	1 ~ 460rpm (Adjustable)
Speed Resolution	0.1rpm
Speed Stability	≤ 0.3rpm
Max Liquid Pressure	1.5Kg/cm²
Fluid Direction	Reversible
Sample Viscosity	2000cps
Sample Temperature	-10 ~ 100ºC
Operating Temperature	0 ~ 50ºC, corresponsible temperature < 80%
Power Consumption	150W
Power Supply	110V or 220V ± 15%
Weight	5.5Kg
External Dimensions (W×H×D)	120mm × 230mm × 270mm

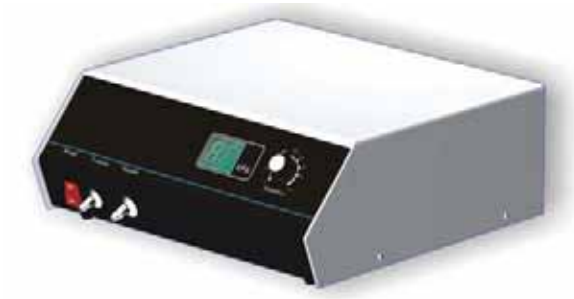
Specifications of tube

Tube no.	**14#**	**25#**	**17#**	**18#**
Inner diameter (mm)	1.6	4.8	6.7	7.9
Wall thickness (mm)	1.5	1.5	1.5	1.5
Fluid range (ml/min)	0.21-100	1.7-1000	2.8-1550	3.8-2060
Length (cm)	70	70	70	70

Packing list

1. A TP-320 pump
2. A TP-320 head
3. Lock × 4
4. #14 tube × 2
5. #25 tube × 1
6. #17 tube × 1
7. #18 tube × 1
8. Power line
9. User manual

B08- Vacuum Pressure Pump



DP-02

DP-08

DP-01

Descriptions

CT vacuum pressure pump is an adjustable pump with a unique method of adjusting pressure. It uses the pressure sender to detect the pressure in the system and then readjusts the pump's working period. This series of vacuum pressure pumps still maintain stable pressure even when the current changes. With main parts made of Teflon, PTFE resin, these advanced pumps can endure large volume flow and high pressure to meet requirements of many filter systems. Having separate negative and positive pressure connectors and stable pressure for experiment samples of extraction and purification, this equipment has been applied to many fields, especially in biochemistry.

Specifications

Model	**DP-02**	**DP-08**	**DP-01**
Vacuum Pressure (Kpa)	0 ~ 80 (Adjustable)	0 ~ 80 (Adjustable)	80
Max Positive Pressure (Psi)	18	20	18
Capacity (ml/min)	10000	20000	12000
Power (VA)	45	100	80
Dimensions (W × H × D) (mm)	230 × 85 × 200	292 × 180 × 155	210 × 150 × 120

Features

DP-02

A. Flat shape perfect for placement under lab benches.
B. Accurate, reliable dual LED pressure display.
C. Convenient knob for adjustment of vacuum pressure.
D. Separate positive and negative joints allow this instrument wider application.

DP-08

A. An optional function to adjust pressure and flow volume.
B. Dual-head pump offers more capacity over single head pump.
C. Convenient for choosing working way to be series connection or parallel connection.

DP-01

A. Convenient for operation.
B. Small size design.

B09- Dry Bath

Descriptions

This equipment is popularly used in chemical engineering and biochemistry researches. It is mainly formed of two parts: multifunction heater and heating block. There are two types of multifunction heater, including digital control and microprocessor control. The former can satisfy most needs of user, while the latter provides higher temperature accuracy. Heating blocks have two standard sizes with many different aperture diameters mostly compatible with foreign equipments. This dry bath can accommodate two standard-size blocks or one double-size block.

Features

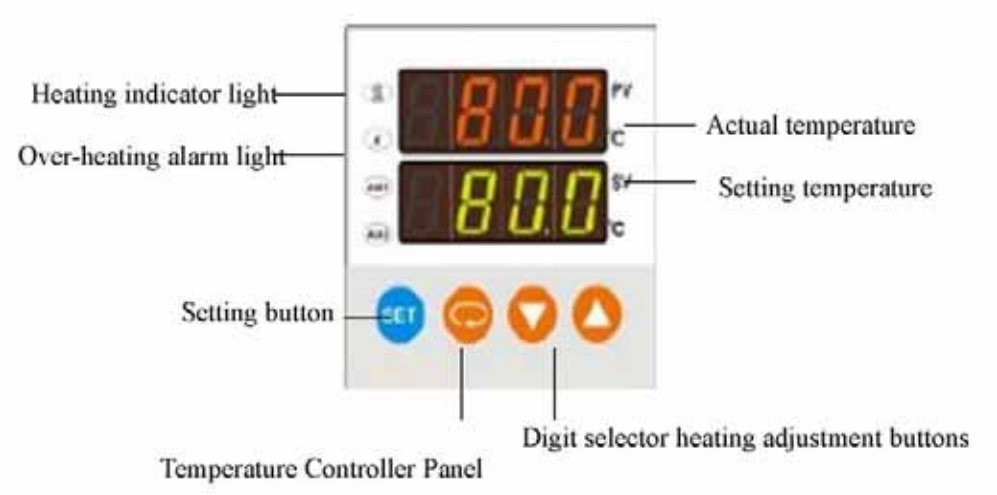
A. Microprocessor thermal control allows higher temperature accuracy.
B. Aluminum block interface provides good conductivity and even temperature to allow rapid heating and precise thermal control.
C. Automatic alarm of max temperature protects the device from damages of over high temperature.
D. Two 4-digit panels separately display set temperature and actual temperature.

Specifications

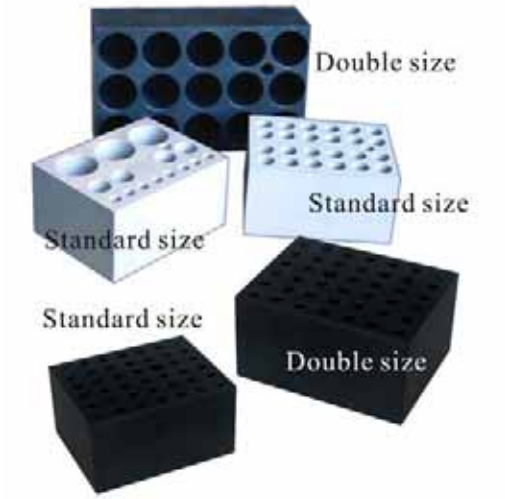
Model	**DMH-2800A**	**DMH-2800D**
Temperature Range	Room temperature + 5ºC ~ 200ºC	
Temperature Stability	±0.1ºC	±0.1ºC
Temperature Accuracy	±0.15ºC	±0.15ºC
Max Temperature	Set value + 5ºC ~ 200ºC	
Max Temperature Protection	Set value + 5ºC	Set value + 5ºC
Time Set	--	1~999 min.
Power Consumption	400W	400W
Heating Chamber Dimensions (W × H × D)	150mm × 51mm × 95mm	
Heating Block Dimensions (W × H × D)	2 Standard size: 91mm × 51mm × 75mm Or 1 Double size: 150mm × 51mm × 95mm	
External Dimensions (W × H × D)	240mm × 90mm × 215mm	240mm × 90mm × 215mm

DMH-2800A

DMH-2800D



Optional blocks



Standard size:

Model	Size	Holes	Diameter
Block-51S-01	6	30	7.9 (5/16”)
Block-51S-02	8	30	8.3 (21/64”)
Block-51S-03	10	24	10.3 (13/32”)
Block-51S-04	12 or 13	22	13.5 (17/32”)
Block-51S-05	15 or 16	12	17.5 (11/16”)
Block-51S-06	17 or 18	12	19.0 (3/4”)
Block-51S-07	20	8	20.6 (13/16”)
Block-51S-08	25	6	25.4 (1”)

B10- Water Bath

WB-5000

WB-10000

WB-20000

Descriptions

Water bath is an important thermostat equipment in chemical experiments. Because its high precision controllable heating circuit, the precision can reach to ±0.2ºC. Its LED display, on the other hand, provides clear and precise display of actual temperature and set temperature. In addition, this product uses durable material to ensure high productivity and long-term use.

Features

A. Precise digital thermal control to ensure stability and precision.
B. Two 4-digits LED display to show set temperature and actual temperature.
C. Stainless steel tank and cover guarantee durability and cleanness.
D. Automatic temperature protection alarm guarantees safe and reliable operation.
E. Magnetic stirring under the stainless steel tank ensures even temperature.

Specifications

Model	**WB-5000**	**WB-10000**	**WB-20000**
Capacity (L)	6L	10L	20L
Temperature Range	Room temperature + 5ºC ~ 100ºC		
Temperature Accuracy	±0.2ºC	±0.2ºC	±0.2ºC
Power Consumption (W)	350W	550W	1100W
Internal Dimensions (W × L × D) (mm)	300 × 150 × 150	300 × 250 × 150	490 × 295 × 150
External Dimensions (W × L × D) (mm)	320 × 175 × 260	320 × 280 × 260	500 × 300 × 300

B11- Shaking Bath

Descriptions & Features

A. Microchip thermal control that enables to heat immediately and maintain stable temperature.
B. Two 4-digit panels separately display set temperature and actual temperature, easy and direct to operate.
C. Automatic power failure of max temperature guarantees safe and reliable operation.
D. Error correction function of temperature controller allows more accurate temperature control.
E. Unrestrainedly adjustable shaking times and duration.
F. Steeple roof design avoids condensed water dropping into test tubes.

Specifications

Model	**Shaking Bath**
Temperature Range	Room temperature + 5ºC ~ 100ºC
Temperature Increment	±0.1ºC
Temperature Accuracy	±0.2ºC
Max Temperature Protection	Set temperature + 10ºC
Heating Power Consumption (W)	600W ~ 1200W
Time Set	10min ~ 99hr 59min
Vibrating frequency	40 ~ 150 times/min
Vibrating displacement	18 mm (horizontal)
Vibrating time	10 ~ 90min
Capacity (L)	20L
Internal Dimensions (W × L × D)	490mm × 295mm × 150mm
External Dimensions (W × L × D)	500mm × 300mm × 300mm

Optional accessories

(A)

(B)

(C)

(D)

Dimensions of stainless rack	360mm × 275mm × 150mm (W × L × D)
Adjustable springs of each rack	17 × 12
Test tube tray	Holds three test tube racks
Test tube rack	Holds Φ13.5 × 60, Φ20 × 40, Φ25 × 24, Φ30 × 24
Erlenmeyer flask tray	Holds 50ml × 24, 100ml × 15, 200ml × 6, 250mm × 6, 500ml × 6

B12- FA/JA Electronic Balance

Features

A. Automatic failure detection function.
B. Automatic zero setting function with brand-new outward appearance.
C. STN wide visual angle back-lighted liquid crystal display (LCD) has superior performance.
D. RS-232C output interface.

Specifications

Model	**FA-1004**	**FA-1104**	**FA-1604**	**FA-2004**	**FA-2104**
Capacity	100g	110g	160g	200g	210g
Minimum Display	0.0001g	0.0001g	0.0001g	0.0001g	0.0001g
Pan Size	Φ90mm	Φ90mm	Φ90mm	Φ90mm	Φ90mm

Model	**JA-1103**	**JA-2103**	**JA-3103**	**JA-5103**	**JA-10003**
Capacity	110g	210g	310g	510g	1000g
Minimum Display	0.001g	0.001g	0.001g	0.001g	0.001g
Pan Size	Φ90mm	Φ90mm	Φ90mm	Φ110mm	Φ110mm

Packing list

A. Electronic balance
B. Stainless steel pan
C. Power line
D. Wind-cover
E. Wind-top
F. User manual

B12- SL Electronic Balance

Features

A. Brand-new design with STN wide visual angle back-lighted liquid crystal display (LCD)
B. Able to transfer to many measurement units.
C. RS-232C output port as an optional equipment.

Specifications

Model	**SL-102**	**SL-202**	**SL-302**	**SL-502**	**SL-602**	**SL-1002**	**SL-2002**
Capacity	100g	200g	300g	500g	600g	1000g	2000g
Readability	0.01g	0.01g	0.01g	0.01g	0.01g	0.01g	0.01g
Pan Size	Φ110mm	Φ110mm	Φ110mm	Φ128mm	Φ128mm	Φ165mm	Φ165mm

Packing list

A. Electronic balance
B. Stainless steel pan
C. Power line
D. Wind-cover
E. Wind-top
F. User manual

C01- Micro Liter Syringe (Fixed Syringes for GC, HPLC)

Specifications

Fixed Syringes for Gas Chromatography

ISO 9001:2000

Cat. No.	Model	Remarks
SGC-1F-05	0.5ul Fixed Syringe (for GC)	Zero dead volume, Beveled needle
SGC-1F-1	1ul Fixed Syringe (for GC)	Zero dead volume, Beveled needle
SGC-1F-5	5ul Fixed Syringe (for GC)	Zero dead volume, Beveled needle
SGC-1F-10	10ul Fixed Syringe (for GC)	Beveled needle
SGC-1F-25	25ul Fixed Syringe (for GC)	Beveled needle
SGC-1F-50	50ul Fixed Syringe (for GC)	Beveled needle
SGC-1F-100	100ul Fixed Syringe (for GC)	Beveled needle
SGC-TF-250	250ul Fixed Syringe (for GC)	Teflon plunger, Beveled needle
SGC-TF-500	500ul Fixed Syringe (for GC)	Teflon plunger, Beveled needle
SGC-TF-1000	1000ul Fixed Syringe (for GC)	Teflon plunger, Beveled needle

Fixed Syringes for Liquid Chromatography

ISO 9001:2000

Cat. No.	Model	Remarks
SLC-1F-05	0.5ul Fixed Syringe (for HPLC)	Zero dead volume, Blunt needle
SLC-1F-1	1ul Fixed Syringe (for HPLC)	Zero dead volume, Blunt needle
SLC-1F-5	5ul Fixed Syringe (for HPLC)	Zero dead volume, Blunt needle
SLC-1F-10	10ul Fixed Syringe (for HPLC)	Blunt needle
SLC-1F-25	25ul Fixed Syringe (for HPLC)	Blunt needle
SLC-1F-50	50ul Fixed Syringe (for HPLC)	Blunt needle
SLC-1F-100	100ul Fixed Syringe (for HPLC)	Blunt needle
SLC-TF-250	250ul Fixed Syringe (for HPLC)	Teflon plunger, Blunt needle
SLC-TF-500	500ul Fixed Syringe (for HPLC)	Teflon plunger, Blunt needle
SLC-TF-1000	1000ul Fixed Syringe (for HPLC)	Teflon plunger, Blunt needle

C01- Micro Liter Syringe (Removable Syringes)

Replaceable Syringe

Luer Lock Syringe

Specifications

Removable Needle Syringes **ISO 9001:2000**

Cat. No.	Model	Remarks
SGC-1R-10	10ul Replaceable Syringe	Replaceable needle
SGC-1R-25	25ul Replaceable Syringe	Replaceable needle
SGC-1R-50	50ul Replaceable Syringe	Replaceable needle
SGC-1R-100	100ul Replaceable Syringe	Replaceable needle
SGC-LR-250	250ul Luer Lock Syringe	Teflon plunger, Cone-shaped needle head secured by a Twist-lock
SGC-LR-500	500ul Luer Lock Syringe	Teflon plunger, Cone-shaped needle head secured by a Twist-lock
SGC-LR-1000	1000ul Luer Lock Syringe	Teflon plunger, Cone-shaped needle head secured by a Twist-lock
SGC-LR-2500	2500ul Luer Lock Syringe	Teflon plunger, Cone-shaped needle head secured by a Twist-lock
SGC-LR-5000	5000ul Luer Lock Syringe	Teflon plunger, Replaceable Cone-shaped needle head secured by a Twist-lock
SGC-LR-10000	10000ul Luer Lock Syringe	Teflon plunger, Replaceable Cone-shaped needle head secured by a Twist-lock

C02- Membrane

Descriptions & Features

A. The membranes are made of hydrophilic and highly solvent resistant material. They are of high quality and can be applied in general filtration and sterilization of aqueous and organic samples.

B. These membranes have a variety of membrane types include:

- Membranes of MCE (CA-CN)

  MCE membranes are all hydrophilic and low protein binding; usually used for general biological filtration, sterilization, and filtration of aqueous solutions.

- Membranes of Nylon

  Nylon membranes are hydrophilic and resistant to many solvents; generally used for filtration and clarification of aqueous or organic solutions.

- Membranes of PVDF

  PVDF (Polyvinylidene difluoride) membranes has advantages of low protein binding, solvent resistant; made of hydrophilic material used for HPLC sample filtration and general biological filtration.

- Membranes of PTFE

  PTFE membranes can be used to filter solvents and strong acids. Although PTFE is inherently hydrophobic, it can be made hydrophilic by pre-wetting the membrane with methanol and then using with aqueous solutions.

Specifications

13mm Membranes

Cat. No.	Membrane Type	Pore Size (um)	Diameter (mm)	Qty/pkg
MJM2213	MCE	0.22	13mm	100
MJM4513	MCE	0.45	13mm	100
MNY2213	Nylon	0.22	13mm	100
MNY4513	Nylon	0.45	13mm	100
MPV2213	PVDF	0.22	13mm	100
MPV4513	PVDF	0.45	13mm	100
MPT2213	PTFE	0.22	13mm	100
MPT4513	PTFE	0.45	13mm	100

25mm Membranes

Cat. No.	Membrane Type	Pore Size (um)	Diameter (mm)	Qty/pkg
MJM2225	MCE	0.22	25mm	100
MJM4525	MCE	0.45	25mm	100
MNY2225	Nylon	0.22	25mm	100
MNY4525	Nylon	0.45	25mm	100
MPV2225	PVDF	0.22	25mm	100
MPV4525	PVDF	0.45	25mm	100
MPT2225	PTFE	0.22	25mm	100
MPT4525	PTFE	0.45	25mm	100

47mm Membranes

Cat. No.	Membrane Type	Pore Size (um)	Diameter (mm)	Qty/pkg
MJM2247	MCE	0.22	47mm	100
MJM4547	MCE	0.45	47mm	100
MNY2247	Nylon	0.22	47mm	100
MNY4547	Nylon	0.45	47mm	100
MPV2247	PVDF	0.22	47mm	100
MPV4547	PVDF	0.45	47mm	100
MPT2247	PTFE	0.22	47mm	100
MPT4547	PTFE	0.45	47mm	100

C03- Syringe Filter

Descriptions & Features

The housing is polypropylene (PP) with highly solvent resistant and exhibit low extractable and the non-pigmented polypropylene (PP) housing to assure that filtrates will not be adulterated due to color pigment ,dye, etc.

A. Membrane of MCE (CA-CN)
- Lowest protein binding material available
- Highest throughput
- Hydrophilic

B. Membrane of Nylon
- Wide chemical compatibility range
- Extremely low extractable
- Strength and dimensional stability
- Naturally hydrophilic

C. Membrane of PVDF
- Lowest protein binding material available
- Solvent resistant
- Naturally hydrophobic

D. Membrane of PTFE
- Compatible with strong acids & aggressive solvents
- Improved durability and stability
- Naturally hydrophobic

Specifications

Information of Syringe Filters

Filtration area	13 mm: 0.8cm^2; 25 mm: 4.1cm^2
Sample volume	13 mm: <10ml; 25 mm: <100ml
Dead volume	13 mm: <25ul; 25 mm: <115ul
Max. operating temperature	50ºC
Max. operating pressure	13 mm: 75 psi; 25 mm: 75 psi

13mm Syringe Filters

Cat. No.	Membrane Type	Pore Size (um)	Diameter (mm)	Qty/pkg
SJM2213	MCE	0.22	13mm	100
SJM4513	MCE	0.45	13mm	100
SNY2213	Nylon	0.22	13mm	100
SNY4513	Nylon	0.45	13mm	100
SPV2213	PVDF	0.22	13mm	100
SPV4513	PVDF	0.45	13mm	100
SPT2213	PTFE	0.22	13mm	100
SPT4513	PTFE	0.45	13mm	100

25mm Syringe Filters

Cat. No.	Membrane Type	Pore Size (um)	Diameter (mm)	Qty/pkg
SJM2225	MCE	0.22	25mm	100
SJM4525	MCE	0.45	25mm	100
SNY2225	Nylon	0.22	25mm	100
SNY4525	Nylon	0.45	25mm	100
SPV2225	PVDF	0.22	25mm	100
SPV4525	PVDF	0.45	25mm	100
SPT2225	PTFE	0.22	25mm	100
SPT4525	PTFE	0.45	25mm	100

33mm Syringe Filters

Cat. No.	Membrane Type	Pore Size (um)	Diameter (mm)	Qty/pkg
SJM2233	MCE	0.22	33mm	100
SJM4533	MCE	0.45	33mm	100
SNY2233	Nylon	0.22	33mm	100
SNY4533	Nylon	0.45	33mm	100
SPV2233	PVDF	0.22	33mm	100
SPV4533	PVDF	0.45	33mm	100
SPT2233	PTFE	0.22	33mm	100
SPT4533	PTFE	0.45	33mm	100

C04- Electronic Pipette

Single-channel Electronic Pipette

8-channel Electronic Pipette

Descriptions

A. This electronic pipette is a new product which is reliable and affordable with benefits of time saving, more accurate and precise data, and more productivity and less effort.

B. The biggest difference between traditional manual pipettes and our new electronic pipettes is the method they use to create a vacuum space to retract or propel liquid. Traditional manual pipettes use medal springs, while our electronic pipettes use high-precision stepping motors and microprocessors to control the pipetting volume and speed.

C. Long hours of pipetting could cause Repetitive Stress Injury (RSI), which is the biggest nightmare to researchers. Besides reducing the risk, there are several other important reasons why you should switch to CT electronic pipettes. Reasons and advantages of CT electronic pipettes are listed below:

Items	Traditional Manual Pipettes	CT Electronic Pipettes
Force Saving for Pipetting	No	Yes
Reduce Human Errors	No	Yes
Multiple Pipetting Protocols	No	Yes
Programmable Protocols	No	Yes
No Spring Fatigue Problem	No	Yes
Auto-calibration	No	Yes
Adjustable Tip Ejector	No*	Yes
Accurate 5-speed Control	No	Yes
Memory of Protocols	No	Yes
Sound Indication	No	Yes

* For most models available in the market

Features

A. Consistent accuracy and precision can be easily achieved.
B. User's operation interface is as easy and graphical as your cellular phone.
C. Light-weight and ergonomic design prevent Repetitive Stress Injury (RSI).
D. Multiple protocols (auto-pipetting, mixing, multiple dispensing, sequential aspirating/dispensing, etc.) make your tedious job a breeze.
E. 9 groups of memory settings for saving your protocols.
F. Lithium battery guarantees no leakage and more hours of operation.
G. 5 speed settings for different viscous samples.
H. Affordable prices.
I. Complies with ISO-8655, CE and GLP.

Specifications

Model	Descriptions	Volume Range (µl)	Increment (µl)	Accuracy Rel % (±)	Precision Rel CV % (≤)
A20-1	Single-channel	2-20µl	0.1µl	7-1	2-0.3
A200-1	Single-channel	10-200µl	1µl	2.5-0.8	1-0.15
A1000-1	Single-channel	100-1000µl	1µl	3-0.8	0.6-0.15
A20-8	8-channel	2-20µl	0.1µl	7-1	2-0.3
A200-8	8-channel	10-200µl	1µl	3.5-0.8	1-0.15

C04- Mechanical (Adjustable Volume) Pipette

Descriptions

A. CT adjustable volume pipette delivers high quality with excellent value for money.
B. The range is manufactured from the latest materials ensuring light weight and durable pipette which will offer reliable service of years.
C. The pipettes cover the volume range 0.1µl to 5000µl with 8 different single-channel adjustable volume models. The range is also available in fixed volume and 8 multi-channel models.

Features

A. Lightweight ergonomic design.
B. Easy to calibrate and maintain.
C. Supplied with full documentation, warranties and certificates.
D. Color-coded ID-stickers included with each pipette.
E. Other features include:
   - 5 color coding caps
   - Safe-cone filter
   - Tip ejector allows convenient one-hand operation
   - Finger support keeps the instrument in place with minimum user effort
   - Digital display allows clear readability of volume setting
   - Ejector collar and tip cone materials provide excellent chemical resistance

Specifications

Model	Channel	Volume Range (µl)	Increment (µl)	Test Volume (µl)	Inacc. (%)	Impr. (%)	Safe-cone filters Standard Plus
720005	1	0.1-2.5µl	0.05µl	2.5µl	2.50%	2.00%	--
				1.25µl	3.00%	3.00%	
				0.25µl	12.00%	6.00%	
720000	1	0.5-10µl	0.1µl	10µl	1.00%	0.80%	--
				5µl	1.50%	1.50%	
				1µl	2.50%	1.50%	
720080	1	2-20µl	0.5µl	20µl	0.90%	0.40%	721008
				10µl	1.20%	1.00%	721018
				2µl	3.00%	2.00%	
720020	1	5-50µl	0.5µl	50µl	0.60%	0.30%	721008
				25µl	0.90%	0.60%	721018
				5µl	2.00%	2.00%	
720050	1	10-100µl	1µl	100µl	0.80%	0.15%	721007
				50µl	1.00%	0.40%	72017
				10µl	3.00%	1.50%	
720070	1	20-200µl	1µl	200µl	0.60%	0.15%	721007
				100µl	0.80%	0.30%	721017
				20µl	3.00%	1.00%	
720060	1	100-1000µl	5µl	1000µl	0.60%	0.20%	721006
				500µl	0.70%	0.25%	721016
				100µl	2.00%	0.70%	
720110	1	1000-5000µl	50µl	5000µl	0.50%	0.15%	721005
				2500µl	0.60%	0.30%	721015
				1000µl	0.70%	0.30%	
720210	8	0.5-10µl	0.1µl	10µl	1.50%	1.50%	--
				5µl	2.50%	2.50%	
				1µl	4.00%	4.00%	
720220	8	5-50µl	0.5µl	50µl	1.00%	0.50%	--
				25µl	1.50%	1.00%	
				5µl	3.00%	2.00%	
720240	8	50-300µl	5µl	300µl	0.70%	0.25%	--
				150µl	1.00%	0.50%	
				50µl	1.50%	0.80%	

Model	Channel	Volume Range (µl)	Increment (µl)	Test Volume (µl)	Inacc. (%)	Impr. (%)	Safe-cone filters Standard Plus
720310	12	0.5-10µl	0.1µl	10µl	1.50%	1.50%	--
				5µl	2.50%	2.50%	
				1µl	4.00%	4.00%	
720320	12	5-50µl	0.5µl	50µl	1.00%	0.50%	--
				25µl	1.50%	1.00%	
				5µl	3.00%	2.00%	
720340	12	50-300µl	5µl	300µl	0.70%	0.25%	--
				150µl	1.00%	0.50%	
				50µl	1.50%	0.80%	

C05- Cuvette

Specifications

Standard cell

Picture and Name	Outside Dim H × W × D mm	Path Length mm	Inside Width mm	Volume ml	Product Number		
					ES Quartz Glass 190nm-2500nm	IR Quartz Glass 250nm-3500nm	Optical Glass 340nm-2500nm
Standard cell with lid	45 × 12.5 × 3.5	1	10	0.35	**Q11001**	**I 11001**	**G11001**
	45 × 12.5 × 4.5	2	10	0.70	**Q11002**	**I 11002**	**G11002**
	45 × 12.5 × 7.5	5	10	1.7	**Q11005**	**I 11005**	**G11005**
	45 × 12.5 × 12.5	10	10	3.5	**Q11010**	**I 11010**	**G11010**
	45 × 12.5 × 22.5	20	10	7.0	**Q11020**	**I 11020**	**G11020**
	45 × 12.5 × 32.5	30	10	10.5	**Q11030**	**I 11030**	**G11030**
	45 × 12.5 × 42.5	40	10	14	**Q11040**	**I 11040**	**G11040**
	45 × 12.5 × 52.5	50	10	17.5	**Q11050**	**I 11050**	**G11050**
	45 × 12.5 × 102.5	100	10	35.0	**Q11100**	**I 11100**	**G11100**
Standard cell with Teflon stopper	45 × 12.5 × 7.5	5	10	1.7	**Q12005**	**I 12005**	**G12005**
	45 × 12.5 × 12.5	10	10	3.5	**Q12010**	**I 12010**	**G12010**
	45 × 12.5 × 22.5	20	10	7.0	**Q12020**	**I 12020**	**G12020**
	45 × 12.5 × 32.5	30	10	10.5	**Q12030**	**I 12030**	**G12030**
	45 × 12.5 × 42.5	40	10	14.0	**Q12040**	**I 12040**	**G12040**
	45 × 12.5 × 52.5	50	10	17.5	**Q12050**	**I 12050**	**G12050**
	45 × 12.5 × 102.5	100	10	35.0	**Q12100**	**I 12100**	**G12100**
Standard cell with lid and with round bottom	45 × 12.5 × 3.5	1	10	0.35	**Q13001**	**I 13001**	**G13001**
	45 × 12.5 × 4.5	2	10	0.7	**Q13002**	**I 13002**	**G13002**
	45 × 12.5 × 7.5	5	10	1.7	**Q13005**	**I 13005**	**G13005**
	45 × 12.5 × 12.5	10	10	3.5	**Q13010**	**I 13010**	**G13010**
	45 × 12.5 × 22.5	20	10	7.0	**Q13020**	**I 13020**	**G13020**
	45 × 12.5 × 32.5	30	10	10.5	**Q13030**	**I 13030**	**G13030**
	45 × 12.5 × 42.5	40	10	14.0	**Q13040**	**I 13040**	**G13040**
	45 × 12.5 × 52.5	50	10	17.5	**Q13050**	**I 13050**	**G13050**
	45 × 12.5 × 102.5	100	10	35.0	**Q13100**	**I 13100**	**Q13100**

Standard cell

Picture and Name	Outside Dim H × W × D mm	Path Length mm	Inside Width mm	Volume ml	Product Number		
					ES Quartz Glass 190nm-2500nm	IR Quartz Glass 250nm-3500nm	Optical Glass 340nm-2500nm
Standard cell with Teflon stopper and with round bottom	45 × 12.5 × 7.5	5	10	1.7	**Q14005**	**I 14005**	**G14005**
	45 × 12.5 × 12.5	10	10	3.5	**Q14010**	**I 14010**	**G14010**
	45 × 12.5 × 22.5	20	10	7.0	**Q14020**	**I 14020**	**G14020**
	45 × 12.5 × 32.5	30	10	10.5	**Q14030**	**I 14030**	**G14030**
	45 × 12.5 × 42.5	40	10	14.0	**Q14040**	**I 14040**	**G14040**
	45 × 12.5 × 52.5	50	10	17.5	**Q14050**	**I 14050**	**G14050**
	45 × 12.5 × 102.5	100	10	35.0	**Q14100**	**I 14050**	**G14100**
Standard cell with lid and with level bottom	45 × 12.5 × 3.5	1	10	0.35	**Q15001**	**I 15001**	**G15001**
	45 × 12.5 × 4.5	2	10	0.70	**Q15002**	**I 15002**	**G15002**
	45 × 12.5 × 7.5	5	10	1.7	**Q15005**	**I 15005**	**G15005**
	45 × 12.5 × 12.5	10	10	3.5	**Q15010**	**I 15010**	**G15010**
	45 × 12.5 × 22.5	20	10	7.0	**Q15020**	**I 15020**	**G15020**
	45 × 12.5 × 32.5	30	10	10.5	**Q15030**	**I 15030**	**G15030**
	45 × 12.5 × 42.5	40	10	14	**Q15040**	**I 15040**	**G15040**
	45 × 12.5 × 52.5	50	10	17.5	**Q15050**	**I 15050**	**G15050**
	45 × 12.5 × 102.5	100	10	35	**Q15100**	**I 15100**	**G15100**

Fluorescence cell

Picture and Name	Outside Dim H × W × D mm	Path Length mm	Inside Width mm	Volume ml	Product Number		
					ES Quartz Glass 190nm-2500nm	IR Quartz Glass 250nm-3500nm	Optical Glass 340nm-2500nm
Standard fluorescence cell with lid	45 × 12.5 × 7.5	5	10	1.7	**Q21005**	**I 21005**	**G21005**
	45 × 12.5 × 12.5	10	10	3.5	**Q21010**	**I 21010**	**G21010**
	45 × 12.5 × 22.5	20	10	7.0	**Q21020**	**I 21020**	**G21020**
	45 × 12.5 × 32.5	30	10	10.5	**Q21030**	**I 21030**	**G21030**
	45 × 12.5 × 42.5	40	10	14	**Q21040**	**I 21040**	**G21040**
	45 × 12.5 × 52.5	50	10	17.5	**Q21050**	**I 21050**	**G21050**
Standard fluorescence cell with Teflon stopper	45 × 12.5 × 7.5	5	10	1.7	**Q22005**	**I 22005**	**G22005**
	45 × 12.5 × 12.5	10	10	3.5	**Q22010**	**I 22010**	**G22010**
	45 × 12.5 × 22.5	20	10	7.0	**Q22020**	**I 22020**	**G22020**
	45 × 12.5 × 32.5	30	10	10.5	**Q22030**	**I 22030**	**G22030**
	45 × 12.5 × 42.5	40	10	14.0	**Q22040**	**I 22040**	**G22040**
	45 × 12.5 × 52.5	50	10	17.5	**Q22050**	**I 22050**	**G22050**
Micro fluorescence cell with lid	45 × 12.5 × 12.5	10	2	0.7	**Q23102**	**I 23102**	**G23102**
	45 × 12.5 × 12.5	10	4	1.4	**Q23104**	**I 23104**	**G23104**
Micro fluorescence cell with Teflon stopper	45 × 12.5 × 12.5	10	2	0.7	**Q24102**	**I 24102**	**G24102**
	45 × 12.5 × 12.5	10	4	1.4	**Q24104**	**I 24104**	**G24104**

Micro cell with black walls

Picture and Name	Outside Dim H × W × D mm	Path Length mm	Inside Width mm	Volume ml	Product Number		
					ES Quartz Glass 190nm-2500nm	IR Quartz Glass 250nm-3500nm	Optical Glass 340nm-2500nm
Micro cell with black walls and with lid	45 × 12.5 × 7.5	5	1	0.17	**Q31051**	**I 31051**	**G31051**
	45 × 12.5 × 12.5	10	1	0.35	**Q31101**	**I 31101**	**G31101**
	45 × 12.5 × 22.5	20	1	0.7	**Q31201**	**I 31201**	**G31201**
	45 × 12.5 × 32.5	30	1	1	**Q31301**	**I 31301**	**G31301**
	45 × 12.5 × 42.5	40	1	1.4	**Q31401**	**I 31401**	**G31401**
	45 × 12.5 × 52.5	50	1	1.75	**Q31501**	**I 31501**	**G31501**
Micro cell with black walls and with lid	45 × 12.5 × 7.5	5	2	0.35	**Q31052**	**I 31052**	**G31052**
	45 × 12.5 × 12.5	10	2	0.7	**Q31102**	**I 31102**	**G31102**
	45 × 12.5 × 22.5	20	2	1.4	**Q31202**	**I 31202**	**G31202**
	45 × 12.5 × 32.5	30	2	2.1	**Q31302**	**I 31302**	**G31302**
	45 × 12.5 × 42.5	40	2	2.8	**Q31402**	**I 31402**	**G31402**
	45 × 12.5 × 52.5	50	2	3.5	**Q31502**	**I 31502**	**G31502**
Micro cell with black walls and with lid	45 × 12.5 × 7.5	5	3	0.50	**Q31053**	**I 31053**	**G31053**
	45 × 12.5 × 12.5	10	3	1	**Q31103**	**I 31103**	**G31103**
	45 × 12.5 × 22.5	20	3	2.1	**Q31203**	**I 31203**	**G31203**
	45 × 12.5 × 32.5	30	3	3.15	**Q31303**	**I 31303**	**G31303**
	45 × 12.5 × 42.5	40	3	4.2	**Q31403**	**I 31403**	**G31403**
	45 × 12.5 × 52.5	50	3	5.25	**Q31503**	**I 31503**	**G31503**
Micro cell with black walls and Teflon stopper	45 × 12.5 × 7.5	5	2	0.35	**Q32052**	**I 32052**	**G32052**
	45 × 12.5 × 12.5	10	2	0.7	**Q32102**	**I 32102**	**G32102**
	45 × 12.5 × 22.5	20	2	1.4	**Q32202**	**I 32202**	**G32202**
	45 × 12.5 × 32.5	30	2	2.1	**Q32302**	**I 32302**	**G32302**
	45 × 12.5 × 42.5	40	2	2.8	**Q32402**	**I 32402**	**G32402**
	45 × 12.5 × 52.5	50	2	3.5	**Q32502**	**I 32502**	**G32502**

Micro cell with black walls

Picture and Name	Outside Dim H × W × D mm	Path Length mm	Inside Width mm	Volume ml	Product Number		
					ES Quartz Glass 190nm-2500nm	IR Quartz Glass 250nm-3500nm	Optical Glass 340nm-2500nm
Micro cell with black walls and with lid	25 × 12.5 × 12.5	10	1	0.15	**Q33101**	**I 33101**	**G33101**
	25 × 12.5 × 12.5	10	2	0.30	**Q33102**	**I 33102**	**G33102**
	25 × 12.5 × 12.5	10	3	0.45	**Q33103**	**I 33103**	**G33103**
	25 × 12.5 × 12.5	10	4	0.60	**Q33104**	**I 33104**	**G33104**

Semi-Micro cell

Picture and Name	Outside Dim H × W × D mm	Path Length mm	Inside Width mm	Volume ml	Product Number		
					ES Quartz Glass 190nm-2500nm	IR Quartz Glass 250nm-3500nm	Optical Glass 340nm-2500nm
Semi-Micro cell with black walls and with lid	45 × 12.5 × 7.5	5	4	0.7	**Q31054**	**I 31054**	**G31054**
	45 × 12.5 × 12.5	10	4	1.4	**Q31104**	**I 31104**	**G31104**
	45 × 12.5 × 22.5	20	4	2.8	**Q31204**	**I 31204**	**G31204**
	45 × 12.5 × 32.5	30	4	4.2	**Q31304**	**I 31304**	**G31304**
	45 × 12.5 × 42.5	40	4	5.6	**Q31404**	**I 31404**	**G31404**
	45 × 12.5 × 52.5	50	4	7	**Q31504**	**I 31504**	**G31504**
Semi-Micro cell with black walls and with lid	45 × 12.5 × 7.5	5	5	0.85	**Q31055**	**I 31055**	**G31055**
	45 × 12.5 × 12.5	10	5	1.75	**Q31105**	**I 31105**	**G31105**
	45 × 12.5 × 22.5	20	5	3.5	**Q31205**	**I 31205**	**G31205**
	45 × 12.5 × 32.5	30	5	5.25	**Q31305**	**I 31305**	**G31305**
	45 × 12.5 × 42.5	40	5	7	**Q31405**	**I 31405**	**G31405**
	45 × 12.5 × 52.5	50	5	8.75	**Q31505**	**I 31505**	**G31505**
Semi-Micro cell with black walls and with Teflon stopper	45 × 12.5 × 7.5	5	4	0.7	**Q32054**	**I 32054**	**G32054**
	45 × 12.5 × 12.5	10	4	1.4	**Q32104**	**I 32104**	**G32104**
	45 × 12.5 × 22.5	20	4	2.8	**Q32204**	**I 32204**	**G32204**
	45 × 12.5 × 32.5	30	4	4.2	**Q32304**	**I 32304**	**G32304**
	45 × 12.5 × 42.5	40	4	5.6	**Q32404**	**I 32404**	**G32404**
	45 × 12.5 × 52.5	50	4	7	**Q32504**	**I 32504**	**G32504**
Semi-Micro cell with frosted walls and with lid	45 × 12.5 × 7.5	5	4	0.7	**Q41054**	**I 41054**	**G41054**
	45 × 12.5 × 12.5	10	4	1.4	**Q41104**	**I 41104**	**G41104**
	45 × 12.5 × 22.5	20	4	2.8	**Q41204**	**I 41204**	**G41204**
	45 × 12.5 × 32.5	30	4	4.2	**Q41304**	**I 41304**	**G41304**
	45 × 12.5 × 42.5	40	4	5.6	**Q41404**	**I 41404**	**G41404**
	45 × 12.5 × 52.5	50	4	7	**Q41504**	**I 41504**	**G41504**

Semi-Micro cell

Picture and Name	Outside Dim H × W × D mm	Path Length mm	Inside Width mm	Volume ml	Product Number		
					ES Quartz Glass 190nm-2500nm	IR Quartz Glass 250nm-3500nm	Optical Glass 340nm-2500nm
Semi-Micro cell with frosted walls and with lid	45 × 12.5 × 7.5	5	5	0.85	**Q41055**	**I 41055**	**G41055**
	45 × 12.5 × 12.5	10	5	1.7	**Q41105**	**I 41105**	**G41105**
	45 × 12.5 × 22.5	20	5	3.5	**Q41205**	**I 41205**	**G41205**
	45 × 12.5 × 32.5	30	5	5.2	**Q41305**	**I 41305**	**G41305**
	45 × 12.5 × 42.5	40	5	7	**Q41405**	**I 41405**	**G41405**
	45 × 12.5 × 52.5	50	5	8.75	**Q41505**	**I 41505**	**G41505**
Semi-Micro cell with frosted walls and with Teflon stopper	45 × 12.5 × 7.5	5	4	0.7	**Q42054**	**I 42054**	**G42054**
	45 × 12.5 × 12.5	10	4	1.4	**Q42104**	**I 42104**	**G42104**
	45 × 12.5 × 22.5	20	4	2.8	**Q42204**	**I 42204**	**G42204**
	45 × 12.5 × 32.5	30	4	4.2	**Q42304**	**I 42304**	**G42304**
	45 × 12.5 × 42.5	40	4	5.6	**Q42404**	**I 42404**	**G42404**
	45 × 12.5 × 52.5	50	4	7	**Q42504**	**I 42504**	**G42504**

Micro cell with frosted walls

Picture and Name	Outside Dim H × W × D mm	Path Length mm	Inside Width mm	Volume ml	Product Number		
					ES Quartz Glass 190nm-2500nm	IR Quartz Glass 250nm-3500nm	Optical Glass 340nm-2500nm
Micro cell with frosted walls and with lid	45 × 12.5 × 7.5	5	1	0.17	**Q41051**	**I 41051**	**G41051**
	45 × 12.5 × 12.5	10	1	0.35	**Q41101**	**I 41101**	**G41101**
	45 × 12.5 × 22.5	20	1	0.70	**Q41201**	**I 41201**	**G41201**
	45 × 12.5 × 32.5	30	1	1	**Q41301**	**I 41301**	**G41301**
	45 × 12.5 × 42.5	40	1	1.4	**Q41401**	**I 41401**	**G41401**
	45 × 12.5 × 52.5	50	1	1.75	**Q41501**	**I 41501**	**G41501**
Micro cell with frosted walls and with lid	45 × 12.5 × 7.5	5	2	0.35	**Q41052**	**I 41052**	**G41052**
	45 × 12.5 × 12.5	10	2	0.70	**Q41102**	**I 41102**	**G41102**
	45 × 12.5 × 22.5	20	2	1.4	**Q41202**	**I 41202**	**G41202**
	45 × 12.5 × 32.5	30	2	2.1	**Q41302**	**I 41302**	**G41302**
	45 × 12.5 × 42.5	40	2	2.8	**Q41402**	**I 41402**	**G41402**
	45 × 12.5 × 52.5	50	2	3.5	**Q41502**	**I 41502**	**G41502**
Micro cell with frosted walls and with lid	45 × 12.5 × 7.5	5	3	0.5	**Q41053**	**I 41053**	**G41053**
	45 × 12.5 × 12.5	10	3	1	**Q41103**	**I 41103**	**G41103**
	45 × 12.5 × 22.5	20	3	2.1	**Q41203**	**I 41203**	**G41203**
	45 × 12.5 × 32.5	30	3	3.15	**Q41303**	**I 41303**	**G41303**
	45 × 12.5 × 42.5	40	3	4.2	**Q41403**	**I 41403**	**G41403**
	45 × 12.5 × 52.5	50	3	5.25	**Q41503**	**I 41503**	**G41503**
Micro cell with frosted walls and Teflon stopper	45 × 12.5 × 7.5	5	2	0.35	**Q42052**	**I 42052**	**G42052**
	45 × 12.5 × 12.5	10	2	0.7	**Q42102**	**I 42102**	**G42102**
	45 × 12.5 × 22.5	20	2	1.4	**Q42202**	**I 42202**	**G42202**
	45 × 12.5 × 32.5	30	2	2.1	**Q42302**	**I 42302**	**G42302**
	45 × 12.5 × 42.5	40	2	2.8	**Q42402**	**I 42402**	**G42402**
	45 × 12.5 × 52.5	50	2	3.5	**Q42502**	**I 42502**	**G42502**
Micro cell with frosted walls and with lid	25 × 12.5 × 12.5	10	1	0.15	**Q43101**	**I 43101**	**G43101**
	25 × 12.5 × 12.5	10	2	0.30	**Q43102**	**I 43102**	**G43102**
	25 × 12.5 × 12.5	10	3	0.45	**Q43103**	**I 43103**	**G43103**
	25 × 12.5 × 12.5	10	4	0.60	**Q43104**	**I 43104**	**G43104**

Self masking flow cell

Picture and Name	Outside Dim H × W × D mm	Path Length mm	Inside Width mm	Volume ml	Product Number		
					ES Quartz Glass 190nm-2500nm	IR Quartz Glass 250nm-3500nm	Optical Glass 340nm-2500nm
Self masking flow cell	45 × 12.5 × 12.5	10	ϕ1.5	0.018	**Q51105**	**I 51105**	**G51105**
	45 × 12.5 × 7.5	5	ϕ2	0.015	**Q51052**	**I 51052**	**G51052**
	45 × 12.5 × 12.5	10	ϕ2	0.03	**Q51102**	**I 51102**	**G51102**
	45 × 12.5 × 22.5	20	ϕ2	0.06	**Q51202**	**I 51202**	**G51202**
	45 × 12.5 × 7.5	5	ϕ3	0.035	**Q51053**	**I 51053**	**G51053**
	45 × 12.5 × 12.5	10	ϕ3	0.07	**Q51103**	**I 51103**	**G51103**
	45 × 12.5 × 22.5	20	ϕ3	0.14	**Q51203**	**I 51203**	**G51203**
	45 × 12.5 × 32.5	30	ϕ3	0.21	**Q51303**	**I 51303**	**G51303**
Self masking flow cell	45 × 12.5 × 7.5	5	4 ×12	0.24	**Q52054**	**I 52054**	**G52054**
	45 × 12.5 × 12.5	10	4 ×12	0.48	**Q52104**	**I 52104**	**G52104**
	45 × 12.5 × 22.5	20	4 ×12	1.0	**Q52204**	**I 52204**	**G52204**
	45 × 12.5 × 32.5	30	4 ×12	1.5	**Q52304**	**I 52304**	**G52304**
Self masking flow cell	45 × 12.5 × 12.5	10	ϕ1	0.01	**Q53101**	**I 53101**	**G53101**
	45 × 12.5 × 22.5	20	ϕ1	0.016	**Q53201**	**I 53201**	**G53201**
	45 × 12.5 × 32.5	30	ϕ1	0.025	**Q53301**	**I 53301**	**G53301**
	45 × 12.5 × 12.5	10	ϕ1.5	0.018	**Q53105**	**I 53105**	**G53105**
	45 × 12.5 × 22.5	20	ϕ1.5	0.036	**Q53205**	**I 53205**	**G53205**
	45 × 12.5 × 32.5	30	ϕ1.5	0.055	**Q53305**	**I 53305**	**G53305**
	45 × 12.5 × 12.5	10	ϕ2	0.03	**Q53102**	**I 53102**	**G53102**
	45 × 12.5 × 22.5	20	ϕ2	0.06	**Q53202**	**I 53202**	**G53202**
	45 × 12.5 × 32.5	30	ϕ2	0.09	**Q53302**	**I 53302**	**G53302**

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